CALIFORNIA STATE BOARD OF HEALTH

MONTHLY BULLETIN

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MONTHLY BULLETIN

CALIFORNIA STATE BOARD OF HEALTH

Devoted to the Prevention of Sickness and Death

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Fresno County's Tuberculosis Sanatorium.

Last year at this time, the Fresno County Hospital, in its tuberculosis wards, presented the same appearance that many of the other county hospitals presented. It was crowded; there were no private rooms for far advanced cases; there was little or no provision for women. Today Fresno has as fine a small county sanatorium building as may be found anywhere. While it cost only $14,000, it has a capacity for forty beds. There is every convenience for the care of patients. The supervisors and taxpayers of Fresno need no longer look uncomfortable and change the subject when the care of the tuberculous poor is discussed.

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Decomposing Foods Destroyed.

During the past month, 1,600 barrels of tomato pulp and large quantities of frozen eggs were quarantined by the State Board of Health, in order to permit adequate investigation, and later condemned and ordered destroyed. Eternal vigilance by the Inspectors of the Bureau of Foods and Drugs is necessary to prevent the placing of spoiled foodstuffs on the market.

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Many Tuberculous Come West to Die.

In the city of Los Angeles during 1914, *one hundred and twenty-nine persons who had lived there for less than six months, died of tuberculosis.* Of this number, twenty persons had lived there for less than one month—were virtually dying when they arrived. Some of them were taken from the cars in a dying condition. Most of these unfortunates were from other states; some of them were financially able to provide care for themselves and some of them were not. Of course the city had to pay for the indigents. California is a magnet for the tuberculous, and California sunshine is available for all of our people, but is it right that California should give so freely of her advantages—and pay the bill besides? Nor is California the only state where such conditions may be found. The proposed Federal bill providing a subsidy to be used for the care of such non-resident indigents is of interest to nearly all western states. If investigations were made, it would no doubt be found that the same problem to a lesser degree exists in eastern states as well.

Trachoma and School Children. It is hard to believe that school children in some of the larger cities of California are allowed to attend the public schools while they are receiving treatments for trachoma at the eye clinics; yet such are the reports that have been received by the California State Board of Health. It is said, further, that these cases are not reported to the local health departments, as required by law. What a fallacy it is to maintain at great expense a quarantine service by which immigrants showing evidence of trachoma are refused admission to the United States, and at the same time carelessly to expose children of the public schools to active cases of the disease! Trachoma is not found in our Indians alone. Considering the large foreign-born population in California, it is remarkable that we have been so free from trachoma. Every effort must be exerted to prevent the growth of conditions here that make trachoma so prevalent in some of the Southern states. Above all, the cases must be reported.

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5,000 Tuberculosis Deaths Every Year. During the past five years, 1910 to 1914, there have been 25,836 deaths from tuberculosis in California, the rate being 200.5 deaths per 100,000 population. *Nearly 5,200 tuberculosis deaths annually!* This number can be reduced, in spite of the large numbers of persons who come to Southern California to die of this disease. Think of the alarm that would be caused if the entire population of Watsonville, South Pasadena, Petaluma, Salinas or Palo Alto, were to die in a single year of any communicable disease! Imagine what would happen if during five years every one in Stockton or Long Beach or Fresno, were to die of tuberculosis! One poor, despised leper will throw a whole city into panic, but dozens of deaths annually from tuberculosis—*preventable deaths*—are unheeded. In spite of the large lòsses that tuberculosis causes many of our cities, they go on unconcernedly, apparently unaware of the menace that this disease presents. *What is your city doing to discover and care for its tuberculous?*

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Los Angeles in Tuberculosis Work. The State has progressed with great rapidity this past year in public health work, particularly with its attack on the tuberculosis problem. In Los Angeles, notwithstanding relentless efforts upon the part of some factions to defeat it, Initiative Petition No. 5—"to provide for one municipal visiting tuberculosis nurse for every hundred registered cases"—won by a large majority. The city has been districted and eight new nurses with the two already employed have started the long needed work on tuberculosis. Without any announcement except the placing of a sign on the building, the support of the clinic which formerly was assumed entirely by the Los Angeles Society for the Study and Prevention of Tuberculosis, was taken over by the city. The society is now responsible for the medical staff and the city furnishes the nurses, pays the rent and supplies the medicine. Eight clinics are held during the week.

Los Angeles Starts New Sanatorium. The Los Angeles supervisors have decided to begin work at once on their new $250,000 county sanatorium. Last week, as a first step, they made a $5,000 appropriation for an emergency sleeping pavilion of thirty beds, for the use of clinic patients.

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Disinfection Versus Fumigation of Schools. "Disinfection" is not synonymous with "fumigation," and the best disinfectant for a schoolroom contains elbow-grease, soap and hot water as principal ingredients. In some places, health officials are still performing the unnecessary ceremony of fumigating schoolrooms on account of diphtheria when they should be terminating the epidemic, without closing the schools, by taking cultures from the pupils and excluding all who are diphtheria carriers, and then ordering a house-cleaning.

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A Visit to the Night Clinics. After a week or so spent visiting tuberculosis wards of county hospitals, the Los Angeles night clinic seems an oasis in the desert. In the one place are the hopeless who were denied early diagnosis; in the other are the recovering, saved by early treatment. These clinic patients are an interesting group, employed during the day and, at night, being taught to protect their fellow workmen. They come to the clinic because they know that tuberculosis in the first stages is curable. They come, also, because of the human sympathy and friendly interest of the doctors and nurses. The Los Angeles City Council deserves great credit for making this clinic possible, particularly as it was established in spite of an exceptionally small budget. Los Angeles is the first city in the State to offer this sort of protection against tuberculosis.

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Tuberculosis Clinics. Seventy-five per cent of those who die in California from tuberculosis have had incomes of less than $1,000 a year. This serves to show how much of the burden of the care of the individual case, and of the protection of his associates from infection, must fall directly on such agencies as the free clinic and the public hospital.

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Bureau of Communicable Diseases. The Bureau of the Hygienic Laboratory will hereafter be known as the Bureau of Communicable Diseases, as the State Board of Health has decided that the latter term is more descriptive of its varied functions. The Director of the Bureau will have his office at the State Hygienic Laboratory in Berkeley and the Bureau will continue to make laboratory tests for diphtheria, typhoid fever, malaria, tuberculosis, and other preventable diseases for physicians and health officers.

A False Typhoid Mortality.

If we compare our fairly accurate records of death from typhoid fever with the number of cases of that disease reported, we find that, in some of our cities, from 75 to 90 per cent of the patients die. Such a mortality is without precedent, and we prefer to believe that in a few of our cities physicians are violating, on a magnificent scale, the State law regarding the reporting of cases. Probably the local health departments are doing nothing to produce complete returns, although early information regarding the cases is essential in the control of typhoid fever.

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Co-operation With Other State Departments.

The various bureaus of the California State Board of Health are co-operating in many ways with other state departments. For instance, in the Bureau of Foods and Drugs, not only are food products for use in state institutions analyzed in order to determine their quality, but examinations of materials such as blankets, leather, soap, oils, etc., are made to determine if they conform to the standards required. Professor M. E. Jaffa, Consulting Nutrition Expert of the Board, is now making a survey of the state hospitals, in order to learn if the diet of patients may be adequate for their needs. He is also assisting the Bureau of Tuberculosis in establishing a standard dietary for patients in county tuberculosis hospitals. The Bureau of Communicable Diseases in the State Hygienic Laboratory also makes tests of disinfectants used by the State, in order to determine their relative efficiency.

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Results of San Francisco Survey.

San Francisco Society for Study and Prevention of Tuberculosis having completed its survey, is about to open a second clinic. Five nurses are now on the staff of the association. The main conclusion drawn from the survey was that the San Francisco Health Department needs a Bureau of Tuberculosis, with a budget of $40,000 per year.

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Tag-Day for the Tuberculous?

The San Diego Society for the Study and Prevention of Tuberculosis has completed its new dining-room at the Convalescent Camp. This was made possible by a recent tag-day in which the society collected over $1,000. What if we had tag-days for maintaining the public schools? Every time we needed a new building or a teacher we could have a tag-day, or sell seals, or have a rummage sale. You probably would not want to run your Department of Education that way. But what about a Health Department so hampered by lack of funds that the only possible way out is by the use of such methods? Out of fairness to the San Diego Council, we are glad to say that at the first of the year the city will have a municipal tuberculosis visiting nurse. The convalescent camp will still be supported by the society.

State Owes Much to Dr. Chas. C. Browning. The California Tuberculosis Commission of 1911 did much good work preparatory to the passage of legislation granting subsidies to county tuberculosis hospitals. For this, the State owes much to Dr. Chas. C. Browning of Los Angeles, President of the California Association for the Study and Prevention of Tuberculosis and to Dr. George H. Kress, Chairman of the Executive Committee of the Commission. Doctor Browning has held unwaveringly to the idea that there must be attractive county institutions in California where citizens suffering from tuberculosis will not be ashamed to go. That there will be such institutions is certain. Fresno County already has a model tuberculosis hospital that any one would be proud of, and other counties are planning to standardize their institutions under the new law providing for a State subsidy.

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The Tuberculosis Subsidy. The principal emphasis in deciding whether a county hospital shall receive the State tuberculosis subsidy will be placed on diet and the care of the patients. The tuberculous patient needs nutritious and attractive food and also good nursing and the careful supervision of a skilled physician. Next in importance is the building in which the patients are housed. The subsidy will be spent so as to give the patient the best possible chance for improvement.

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Another Method of Cleaning Soda Fountain Glasses. In the October Bulletin we called attention to the inadequate cleansing of soda fountain glasses and recommended the use of hot water and soap or else of individual paper cups. In the last issue of the "Florida Health Notes" Dr. Henry Hanson proposes a third method, sterilization by immersion in disinfectants and then rinsing in running water. This method would be effective only if the strength of the disinfectant and the length of immersion were adequate to sterilize soiled dishes. After an extensive bacteriological investigation of soda fountain glasses, Dr. Hanson concluded:

> "These glasses are more important than the common drinking cup on account of the frequency of use of such glasses by different individuals and the nature of the material served, most of which is a good culture medium. Practical rules should be adopted for the sanitation of ice cream parlors and soda fountains which would insure clean glasses, ice cream dishes and spoons. All glasses, dishes and spoons should be rinsed first in a solution of chlorinated lime, or other approved disinfectant, and then cleaned and rinsed in running water. Where there are visible particles of fat, mucus, or dirt, the glasses should be cleaned in a soda solution by means of a brush, and then treated with disinfectant solution and rinsed in running water."

For Tuberculous Children. Alameda County has sent some thirty children from a tuberculosis clinic to a ranch in Napa County. The weight they have added shows what can be done for tuberculous children. A joint county institution, somewhere in the State, for little children who have been exposed to tuberculous grown-ups, could do a vast amount of good.

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Data for Venereal Diseases Lacking. We have more or less accurate information concerning the prevalence of such communicable diseases as typhoid fever, smallpox and diphtheria, but we have practically no data concerning the prevalence of venereal diseases. Estimates recently computed by the United States Public Health Service would indicate that about one person in every forty shows infection. This estimate is based upon an examination of the records of merchant seamen during the years 1886 to 1910, covering a total of 1,333,600 cases. The percentage of venereal diseases to the whole number thus treated was 21.4. After making allowance for the fact that these figures represent treatments rather than cases, the final conclusion is reached that the percentage is 8.15 among the entire class of males known as mariners. Making allowances for the mode of living of the sailor, a conservative application of this ratio to the entire population of the United States would indicate that infection exists in about one person in every forty. Any community that reported its venereal disease completely, as required by law, would be doing a real service by furnishing accurate statistics on the venereal diseases to take the place of such necessarily inaccurate estimates.

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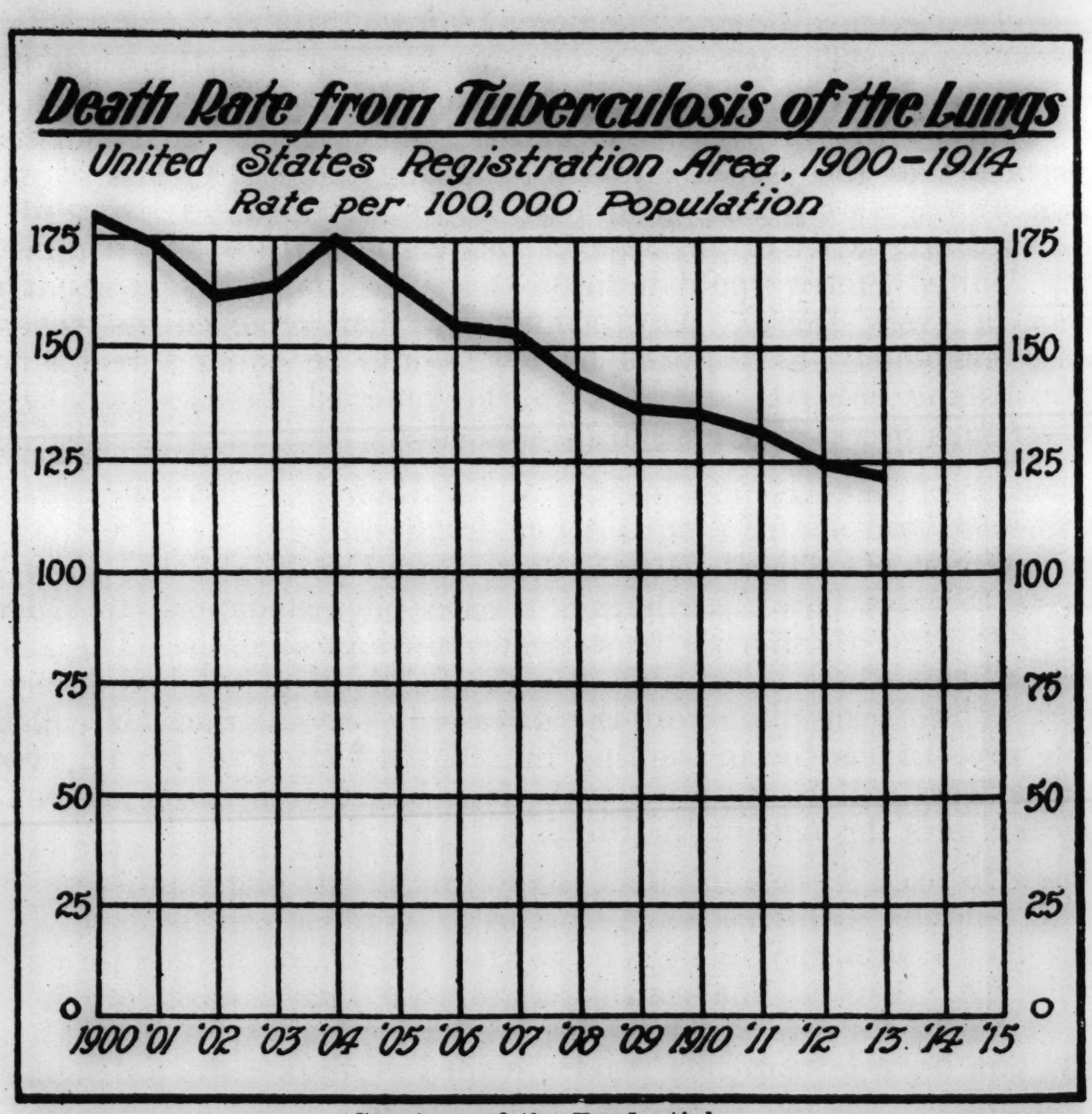
For Prevention of Venereal Diseases. The California State Board of Health has prepared for distribution a card of instructions to persons suffering from gonorrhea and syphilis. The Board desires to have these cards placed in the hands of persons who may be factors in the transmission of the diseases. The instructions embrace simple precautions for preventing innocent infection of others. Local health officers will be supplied with these instruction cards, as well as medical clinics throughout the State.

THE FALLING TUBERCULOSIS DEATH RATE.

By Guy P. Jones, Associate Editor.

The tuberculosis death rate in the United States began to decline before the discovery of the tubercle bacillus in 1880. The decrease since 1880 has been very much greater, because of the fact that, after accurate knowledge concerning the nature of the disease had been obtained, it was possible to direct effective warfare against the disease. The death rate for tuberculosis of the lungs in the United States decreased from 180.5 per hundred thousand population in 1900 to 122.8 per hundred thousand population in 1913. Here, again, it may be noted that the decline is greater during later years. In 1904 the death rate for tuberculosis of the lungs was 176.2 per hundred thousand population, and the average annual decrease since that time has been constant and steady. It is lower today than ever before.



Courtesy of the Prudential.

Lower Now Than Ever Before.

Improvements in social and economic conditions throughout the country have a great deal to do with this decrease, but the organized efforts that have been directed against tuberculosis through public and private organizations must be given credit, as they have played important parts in bringing about this reduction. It is a noticeable fact that the death rate has been lowered to a greater extent in those states where a definite plan for the control of tuberculosis has been put into effect.

TABLE I.

Annual Death Rate per 100,000 Population for Tuberculosis for the United States, California, and Eight Selected Cities of California, 1900 to 1913. (U. S. Census Data.)

	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913
United States (registration area)	201.2	197.0	185.0	189.0	202.6	193.6	184.2	178.5	167.6	160.8	160.3	158.9	149.5	147.6
California	------	------	------	------	------	------	*216.3	219.8	208.4	203.6	204.9	206.8	200.0	203.2
San Francisco	330.2	330.8	318.6	330.1	308.2	308.5	206.3	206.6	212.2	203.6	211.8	190.0	198.3	200.5
Los Angeles	391.3	358.0	339.4	387.2	302.2	343.1	333.8	324.8	261.2	253.0	259.7	277.5	255.7	258.7
Oakland	227.0	245.8	199.5	173.5	147.2	138.8	224.6	240.7	178.3	185.5	143.4	132.8	140.3	129.5
Sacramento	338.1	348.7	245.9	243.4	269.2	295.6	224.4	250.4	221.4	204.8	215.4	244.8	223.8	268.8
Fresno	208.5	326.7	222.3	209.0	203.2	221.7	226.6	257.8	295.9	187.0	159.5	207.6	131.1	146.7
San Jose	293.0	320.5	302.0	248.6	323.5	310.1	252.9	223.5	210.2	222.2	226.9	180.9	164.4	163.1
San Diego	344.7	412.5	489.6	445.1	498.4	314.3	311.1	356.3	359.5	245.9	307.2	307.7	357.6	372.7
Alameda	206.5	182.4	182.6	83.1	156.0	159.9	130.3	182.0	135.6	144.6	131.9	107.3	100.3	124.8

*California was not included in registration area until 1906.

In California, where the tuberculosis problem is perhaps more serious than in any other state, there has been a decrease since 1906, but it has not been steady. In fact, it would appear that migration determines to a large extent the fluctuations of the death rate in California. During those years when there was financial stringency throughout the country, the death rate in California was lower. In 1908 and 1909 there was a considerable reduction in the death rate for California, and figures for the year 1914 will also show a reduction. One would expect that during these "hard times" years, the death rate in California would rise, because of the privations suffered by resident wage-earners, but it is a fact that during those years the death rate in California has been appreciably lowered. Lack of funds apparently limits travel and prevents many of the tuberculous from reaching California.

Chinese Make High Rate.

In the accompanying table it will be noted that in 1906 there was a sharp drop in the tuberculosis death rate in San Francisco, and that never since the San Francisco fire has the death rate been so high as it was before that catastrophe. On the other hand, in Oakland the tuberculosis death rate in 1906 increased almost 100 per hundred thousand population. These changes were probably due to the fact that a large number of San Francisco's population moved to Alameda County following the conflagration. Almost the entire population of San Francisco's Chinatown, where tuberculosis is rampant, moved to Oakland immediately after the fire. This one feature was undoubtedly a factor in raising the death rate in Oakland in 1906. Since 1907 the tuberculosis death rate in Oakland has gradually fallen, until at the present time it is lower than it was before 1906.

High in Southern Cities.

In nearly every city of California the tuberculosis death rate is lower now than it was in 1900. In San Francisco, Alameda, Oakland, San Jose, Fresno, Sacramento and Los Angeles this marked decrease has taken place, although there have been many fluctuations during the intervening years. In San Diego, San Bernardino and Redlands the death rate continues to be very high. The same is true of many of the smaller cities of Southern California. The large numbers of imported cases cause these high rates.

TABLE II.

Death Rates per 100,000 Population for Tuberculosis for California Cities, 1910 to 1913. (U. S. Census Data.)

	1910	1911	1912	1913
Northern and Central California:				
Eureka	244.5	258.1	241.2	187.8
Berkeley	92.7	66.3	92.3	77.0
Santa Cruz	158.9	152.4	89.0	113.4
Stockton*	359.4	363.1	387.2	2[illegible]3.6
Vallejo	157.8	127.6	107.5	1[illegible]2.6
Bakersfield	311.9	383.6	359.1	3[illegible]3.5
Southern California:				
Long Beach	126.8	177.6	140.9	1[illegible]1.2
Pasadena	310.0	281.4	290.0	1[illegible]2.0
San Bernardino	627.0	522.5	462.8	6[illegible]2.8
Santa Barbara	357.0	268.7	304.9	2[illegible]2.9
Redlands	492.1	448.1	5[illegible]3.7	3[illegible]0.)

*State hospital records included.

These facts show that the matter of reducing the death rate from tuberculosis in California presents a hopeful aspect, although we now have one of the highest death rates from this disease of any state in the Union. Although we have problems that are difficult and peculiar to California in connection with the control of tuberculosis, there is every indication that we shall be able greatly to reduce its incidence in the next few years. The mortality has been steadily decreasing, and the State is now in a better position than ever before to cut down the appalling number of deaths from this preventable disease.

THE STATE SUBSIDY FOR COUNTY TUBERCULOSIS HOSPITALS.

The Bureau of Tuberculosis is now ready to inspect county tuberculosis hospitals for which the new State subsidy is desired. While the amount of the subsidy granted to such institutions is small, only three dollars per week per patient, it is sufficient to be of material assistance

Ward in the new Fresno County Tuberculosis Hospital.

in bringing great improvements in the present care of tuberculosis cases in California.

Many inquiries concerning the standard required for receiving the subsidy are being received. It may be stated first of all that erecting an exceptionally expensive building for the accommodation of a small number of patients is unnecessary for securing the subsidy. In fact, the construction of expensive buildings is discouraged. The character and capacity of the building are more important. Proper medical supervision, care, treatment and diet will be insisted upon and must be provided in order to receive the subsidy. The Bureau of Tuberculosis desires to make county tuberculosis hospitals so attractive that persons suffering from the disease in its early stages will be eager to enter.

Isolation Rooms Required.

Most county tuberculosis hospitals in California at the present time are not properly equipped to care for all classes of cases. Advanced cases, those that may be a source of danger to the family and to the general public, must be provided for. Isolation rooms for certain of these cases will be required. Overcrowding can not be tolerated.

There must be regular medical and nursing attendance. No definite results in the treatment of any case of tuberculosis can be expected, except under the constant and thorough supervision of physician and nurse.

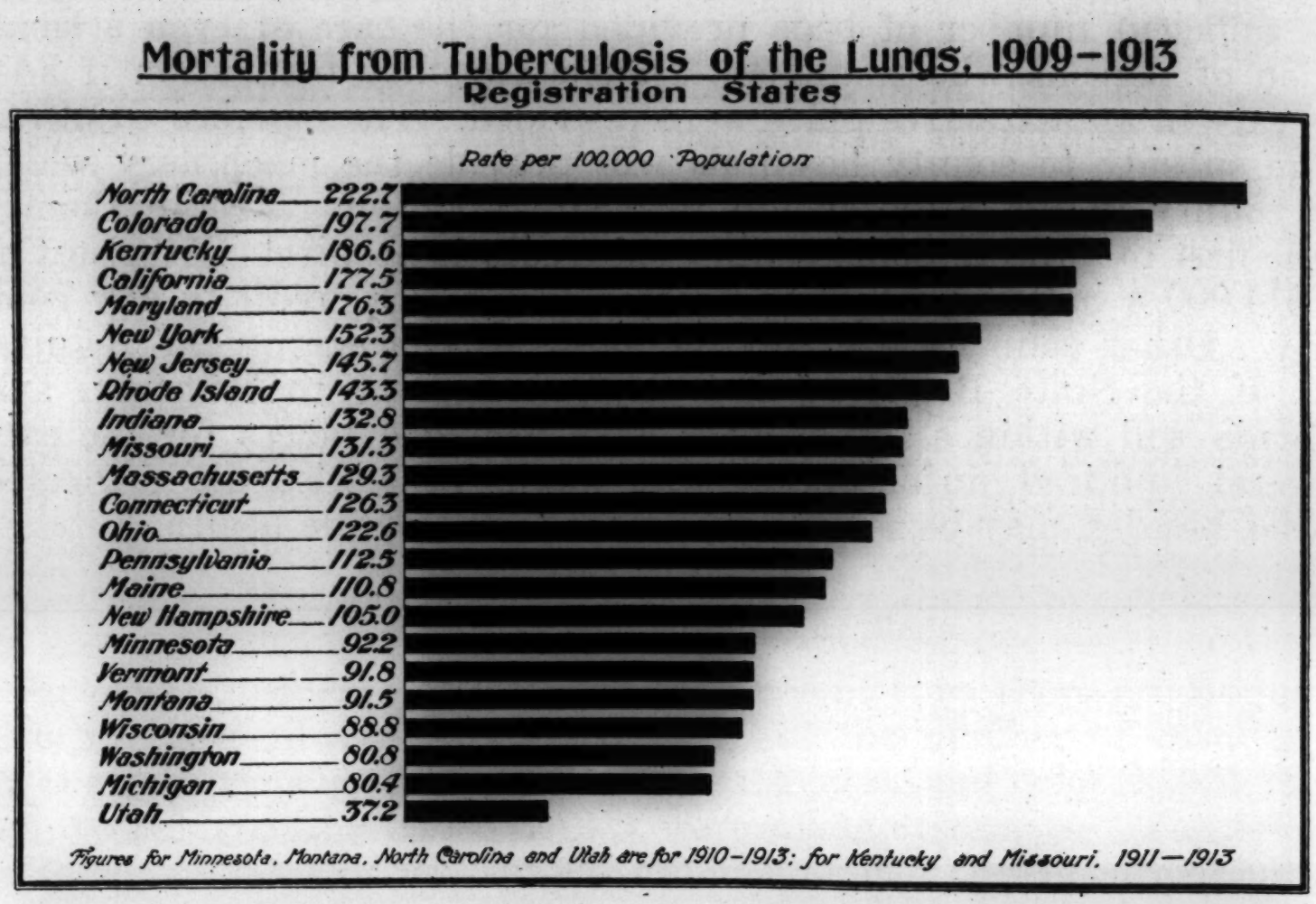
Special emphasis will be placed upon diet. An adequate, well balanced and well prepared dietary, attractively served, is most important. The dietary that is generally provided for almshouses will not be satisfactory for county tuberculosis hospitals. For this reason, chiefly, it will probably be necessary to require that all county tuberculosis hospitals be distinct and separate from institutions of that sort.

Insufficient Number of Beds.

In most California counties at the present time there are not enough beds in tuberculosis hospitals to care for the number of cases present in the county who are entitled to such care and who would enter a county tuberculosis hospital if it were made attractive. The following table shows the average annual number of deaths from tuberculosis in each county of the State, together with the number of beds provided for tuberculosis cases in such counties as maintain tuberculosis hospitals:

County	Average annual number of deaths	Number of tuberculosis beds	County	Average annual number of deaths	Number of tuberculosis beds
Los Angeles	1,486	250	Alpine	3	----------
San Francisco	863	200	Amador	25	----------
Alameda	403	75	Butte	42	16
Fresno	130	30	Calaveras	11	12
Riverside	106	12	Colusa	8	----------
Sacramento	166	30	Contra Costa	36	10
San Bernardino	231	30	Del Norte	3	----------
San Diego	179	25	El Dorado	12	----------
San Joaquin	150	41	Glenn	4	5
Santa Clara	184	34	Humboldt	41	10
Kern	67	10	Imperial	28	10
Napa	62	2	Inyo	2	----------
Orange	61	10	San Mateo	38	4
Kings	24	8	Santa Barbara	46	10
Lake	5	----------	Santa Cruz	40	2
Lassen	2	----------	Shasta	25	8
Madera	10	1	Sierra	1	----------
Marin	43	6	Siskiyou	18	4
Mariposa	3	----------	Solano	32	----------
Mendocino	38	----------	Stanislaus	32	6
Merced	19	6	Sutter	5	----------
Modoc	2	----------	Tehama	20	3
Mono	5	----------	Trinity	3	----------
Monterey	32	6	Tulare	47	----------
Nevada	27	1	Tuolumne	15	----------
Placer	36	----------	Ventura	31	6
Plumas	3	----------	Yolo	16	2
San Benito	14	10	Yuba	16	4
San Luis Obispo	31	1			
Sonoma	82	6	Totals	5,037	206

The number of beds provided for tuberculosis cases in county hospitals is far too small in relation to the annual number of deaths in each county. Since there are at least eight times as many living active cases as there are deaths, it is certain that not a single county in California has a sufficient number of beds provided for the care of even a small fraction of persons who would enter such a county institution if adequate care in an attractive place were provided. The new law granting a State subsidy to county hospitals will provide the machinery which every county in the State should take advantage of. Fresno County was the first to build a model county tuberculosis hospital. At a cost of only $14,000 a building has been erected which is a credit to any community. Other counties are making inquiries concerning the requirements of the State Board of Health for securing the subsidy, and California will within a few months have provided places for the care of several hundred unfortunates who might otherwise die neglected and who, besides, may be a distinct menace to the public health.



Courtesy of the Prudential.

Colorado is the only state that has a higher death rate per hundred thousand population for pulmonary tuberculosis than California, not considering North Carolina and Kentucky, where the rate is unusually high because of the wide prevalence of the disease among the colored population.

It will be noted in the chart above that the average death rate per hundred thousand population for this disease in California, for the years 1909 to 1913 is 177.5. It will be noted also that the rate for Maryland is almost as high as that for California. The large colored population in Maryland is a factor in making this high rate.

Of course, large numbers of imported cases in Colorado and California contribute chiefly to the high rates for these states. In New York, New Jersey and Rhode Island the mortality rates for tuberculosis of the lungs are higher than for some of the middle western states and eastern states having lower populations, and less crowding. Industrial conditions, no doubt, play important parts in making these high rates. In Massachusetts, Ohio and Pennsylvania, where definite plans for the control of tuberculosis have been put into effect, the results are seen in the lower death rates.

FEDERAL SUBSIDY FOR CARE OF NON-RESIDENT INDIGENT TUBERCULOUS.

For many years California, Southern California especially, has been a veritable magnet, drawing cases of tuberculosis from all parts of the United States. The same is true of the southwestern states, New Mexico, Arizona and Texas; also Colorado. Among these large numbers of cases are many persons in the early stages of the disease who, with proper care and treatment, are able to become cured. Some of the most useful citizens of Southern California are persons who originally came to this State because they were tuberculous. A very large number, however, are in such a condition, the disease having advanced to such a stage, that it is hopeless for them to expect to derive any benefit from the climatic conditions found in California. Few people have any idea of how large a number of these migrated cases are indigents, arriving with practically no funds for their maintenance, pinning their faith upon the wonderful California climate for effecting a miraculous and sudden cure. As soon as their funds are exhausted they become charges upon the county or city—a direct burden to the people of the community. One little town of Southern California was called upon to care for seventy-five such persons during a single winter.

Many Patients Without Funds.

There are no free hospitals for such non-residents. Charitable associations are unable to care for them because they have no funds or facilities for the purpose. Labor conditions are such that an invalid can not expect to find employment at a living wage, nor can he compete with strong, healthy laborers, of whom there is a plentiful supply.

Persons suffering from tuberculosis should not come to California unless they have funds sufficient to maintain themselves for at least a year; nor can they hope to derive any benefit from the treatment of their disease in a shorter time. In spite of the fact that this advice has been quite generally distributed throughout the eastern states, these indigent cases continue their journeys to the West and Southwest. As long as California has sunshine they will probably continue to do so. There seems to be no way in which to stem the tide of such migration. A solution must be found by providing adequate and necessary care.

Many plans for meeting the problem have been suggested, but most of them have been of such an impracticable nature that their adoption could not even be considered. In order to meet the problem in a rational and thorough manner, it has been suggested that a Federal subsidy be granted, to provide aid for these indigent persons in state or other institutions. The subsidy plan for providing care of the tuberculous has been more successful throughout the United States than any other plan that has been adopted. By this means it is unnecessary to build expensive and elaborate sanatoria. Care is of first importance. It would seem but just that the United States Government should assume at least a portion of the financial burden incidental to the care of these unfortunate persons who can not be turned back to the states from whence they came. They must be adequately cared for.

Tentative Draft of Bill.

A tentative draft of a bill to be introduced in the next Congress has been prepared, which reads as follows:

An Act to provide federal aid for indigent persons afflicted with tuberculosis in state or other institutions when such indigent persons are not citizens of the state where such institutions are located.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled:

SEC. 1. That the treasury department through the public health service shall provide federal aid for the benefit of indigent persons afflicted with tuberculosis who are not residents of the state in which such indigents are; and further, that it shall provide for standardizing rules and regulations of diet, hygienic requirements, care and attention for such patients.

SEC. 2. Each and every hospital and sanatorium within any state, territory, or the District of Columbia, desiring to care for the class of cases mentioned in Section 1 of this Act, shall make application to the secretary of the treasury, on the blank prescribed for the purpose. If on inspection by an officer of the public health service, the hospital making application is found to conform to a standard of diet, hygienic requirements, care and attention, established by the treasury department, said hospital may be designated as an auxiliary hospital and may receive aid for non-resident tuberculosis indigents, in a sum not to exceed five dollars per week per patient, provided that said hospital shall conform to the regulations established by the treasury department for hospitals receiving aid under this act.

SEC. 3. That every such indigent patient prior to such aid being granted must state under oath whether he has been assisted by any person or any institution to leave his own state or country, and what was the nature of such assistance, and that proof of such assisted migration shall render him ineligible to benefits under this act, provided that the treasury department may pay the subsidy if it is satisfied that the object of such assistance was not the obtaining of the subsidy, and false testimony shall further subject such person to punishment for perjury.

SEC. 4. That all institutions receiving such federal aid shall report at such times as the secretary of the treasury shall designate, and further shall be subject at all times to federal inspection.

SEC. 5. That the secretary is authorized and directed to refuse aid or assistance to or through any institution wherein sanitary, dietetic, and other conditions are not maintained in accordance with the requirements laid down by said secretary. Furthermore, the secretary of the treasury is authorized and directed to refuse aid to or through any institution or hospital organization that shall assist in migration of any indigent tuberculosis patient.

SEC. 6. The secretary of the treasury is authorized to make such regulations as are necessary to carry out the provisions and intent of this act.

SEC. 7. That $25,000 shall be appropriated for the administration of this act, and that a sum not exceeding $2,000,000 be appropriated for aid under the terms of this act.

Medical Authorities Favor Subsidy.

Copies of this tentative bill have been submitted to a number of the most eminent medical authorities of the United States. Following are quotations from letters recently received from such persons:

Dr. Henry B. Favill, Chicago. October 16, 1915.

"As to your tuberculosis bill, the more I see it the more merit I discover there is in it."

Dr. Frank Billings, Chicago. October 11, 1915.

"Your letter of September 30th came today. I have read your letter very carefully and appreciate all of the good things you have in mind in the idea of securing a federal subsidy for the care of tuberculous individuals who wander from state to state, and who have no legal residence where they come under treatment."

Dr. Edwin A. Locke, Boston, Mass. October 20, 1915.

"I am in receipt of your letter of October 9th regarding the introduction to congress of a bill for a federal subsidy, etc., and am very much interested in what you say regarding it. It seems to me at first thought a very desirable piece of legislation. So far as my knowledge goes, state subsidy has worked admirably; certainly such is the case here in Massachusetts."

Dr. George Dock, St. Louis. October 25, 1915.

"Yours of the 9th received. I am very much interested in the plan you propose because it seems to offer means of aiding what is now a very unfortunate situation, and it also should be a factor in the education regarding tuberculosis."

Dr. Alexander Lambert, New York. October 19, 1915.

"I am much interested in your letter of October 9th about the federal law trying to make the United States pay for their wandering cases of tuberculosis. I think New York would come in for a large hunk of that money, more than people give it credit for."

Dr. H. R. M. Landis, Philadelphia. October 19, 1915.

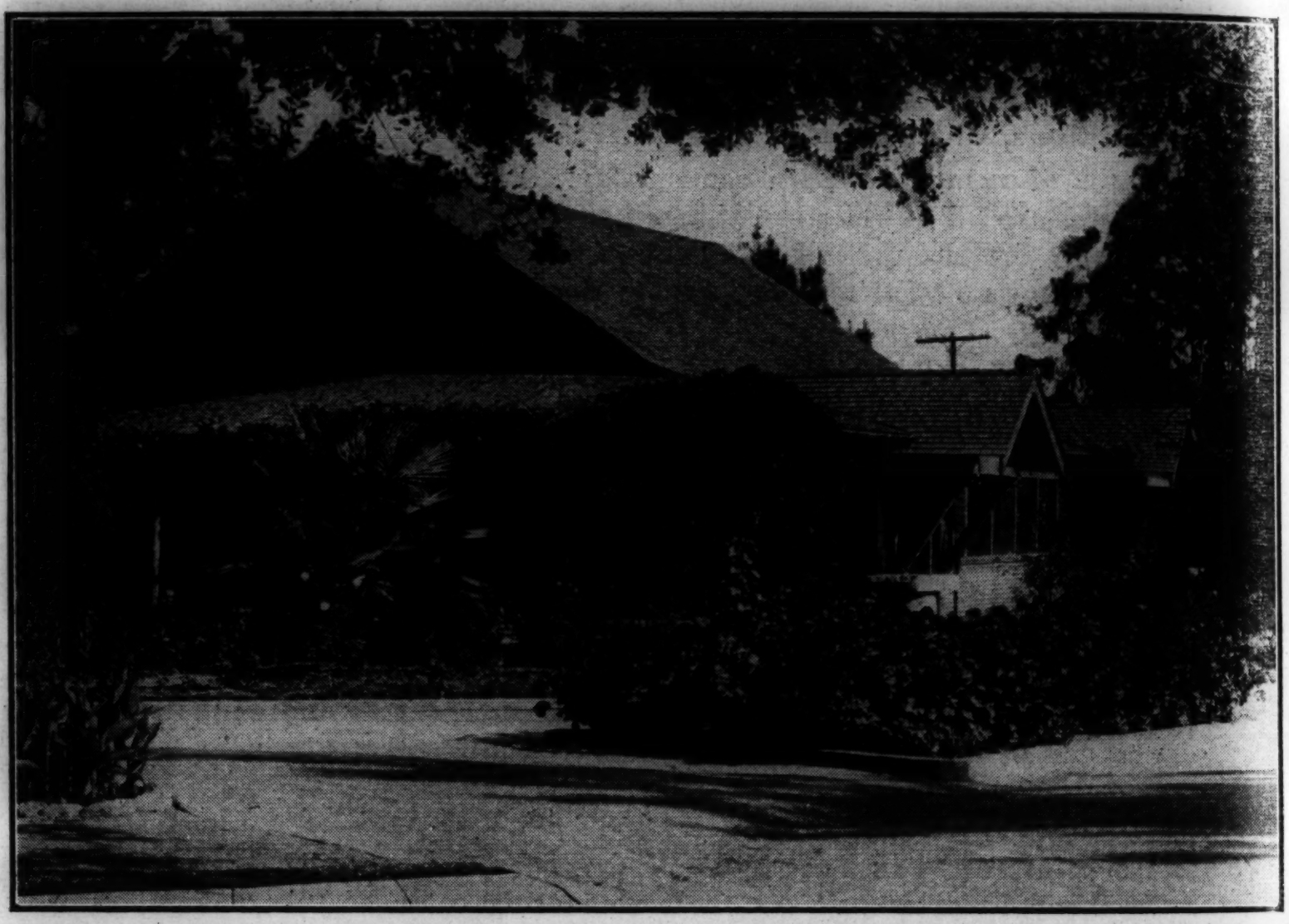
"I am heartily in favor of what you are trying to do and sincerely hope that you will be able to bring it to pass."

The opinions here expressed indicate that this bill will receive a favorable reception when it is introduced in Congress. When one considers that there are, in all probability, one hundred and fifty thousand non-resident cases of tuberculosis in the western and southwestern states, a considerable proportion of whom are indigent, the need of this legislation can not be denied.

ACTIVITIES OF ANTI-TUBERCULOSIS ORGANIZATIONS.

By E. L. M. TATE, Director Bureau of Tuberculosis.

Arequipa, a semi-philanthropic sanatorium, for wage-earning women, in Marin County, continues its good work. The section in the Palace of Education, Panama-Pacific International Exposition, where the pottery made by the patients is being exhibited, has held interested crowds of people all summer.



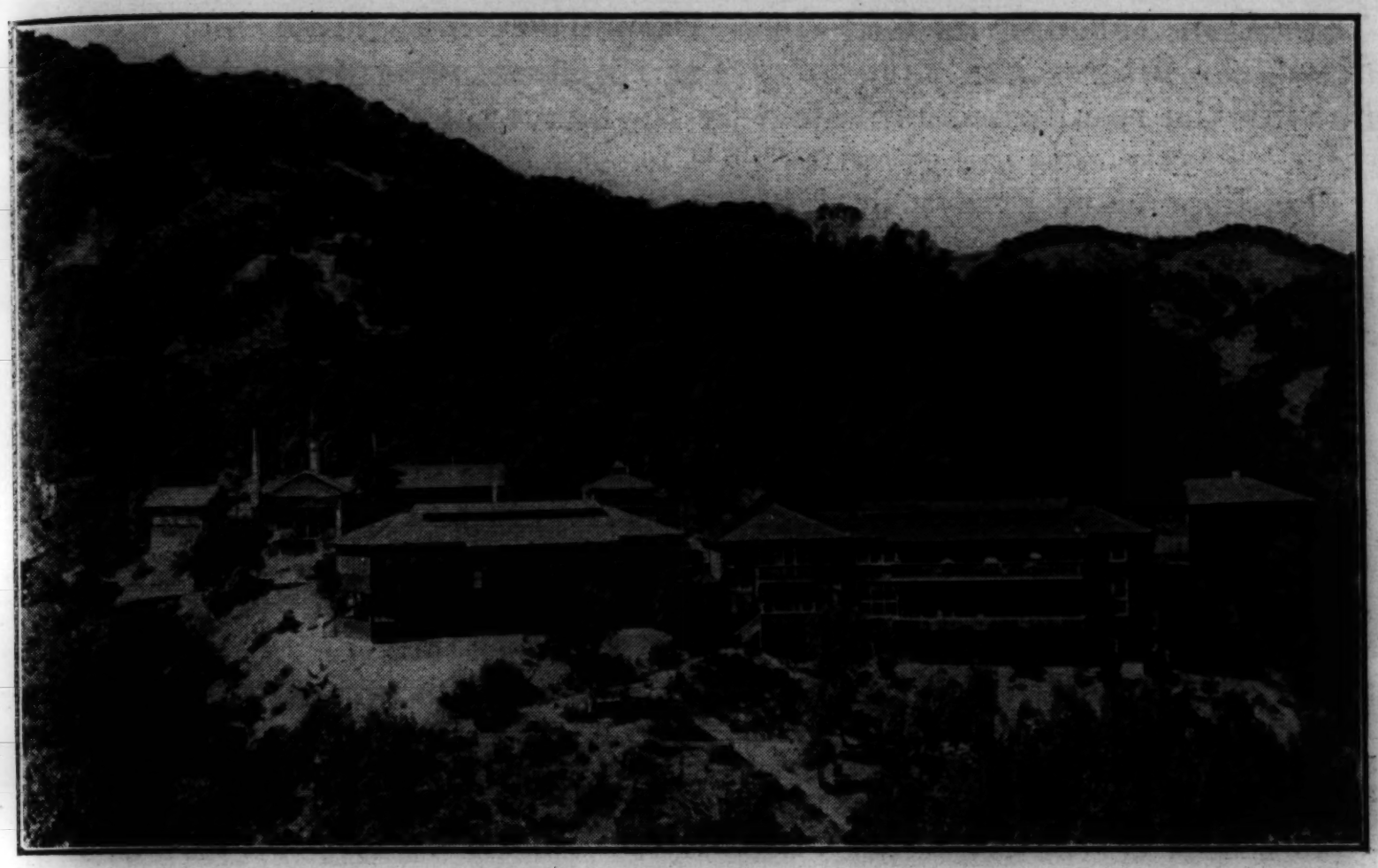
Barlow Sanitarium, Los Angeles. A semi-philanthropic institution for the tuberculous. Open only to residents of Los Angeles County.

The patients at the Barlow Sanatorium, Los Angeles, have made a successful demonstration of usefulness in the sanatorium during the past ten months. They have made gardens and engaged in many sorts of light labor, which, of course, means that as soon as they are again members of the workaday world, they may be better prepared for earning a living.

Duarte, the sanitarium maintained by the Jewish Consumptive Relief Association, near Los Angeles, has just opened its third cottage, complete in every respect.

La Vina has taken care of a great many of Pasadena's tuberculous poor this year.

These four institutions constitute California's all too few semi-philanthropic sanatoria.



Arequipa Sanatorium for Wage Earning Women. A semi-philanthropic institution for the tuberculous.

LODGES BUILD SANATORIA.

The Odd Fellows, with three-quarters of a million dollars to invest, are looking for a suitable site for a sanitarium to take care of their tuberculous members. The Moose and Elks are planning to do likewise.

Pasadena will open its new tuberculosis clinic very soon in a new room in the General Dispensary. Los Angeles has referred all of its Pasadena patients to the clinic.

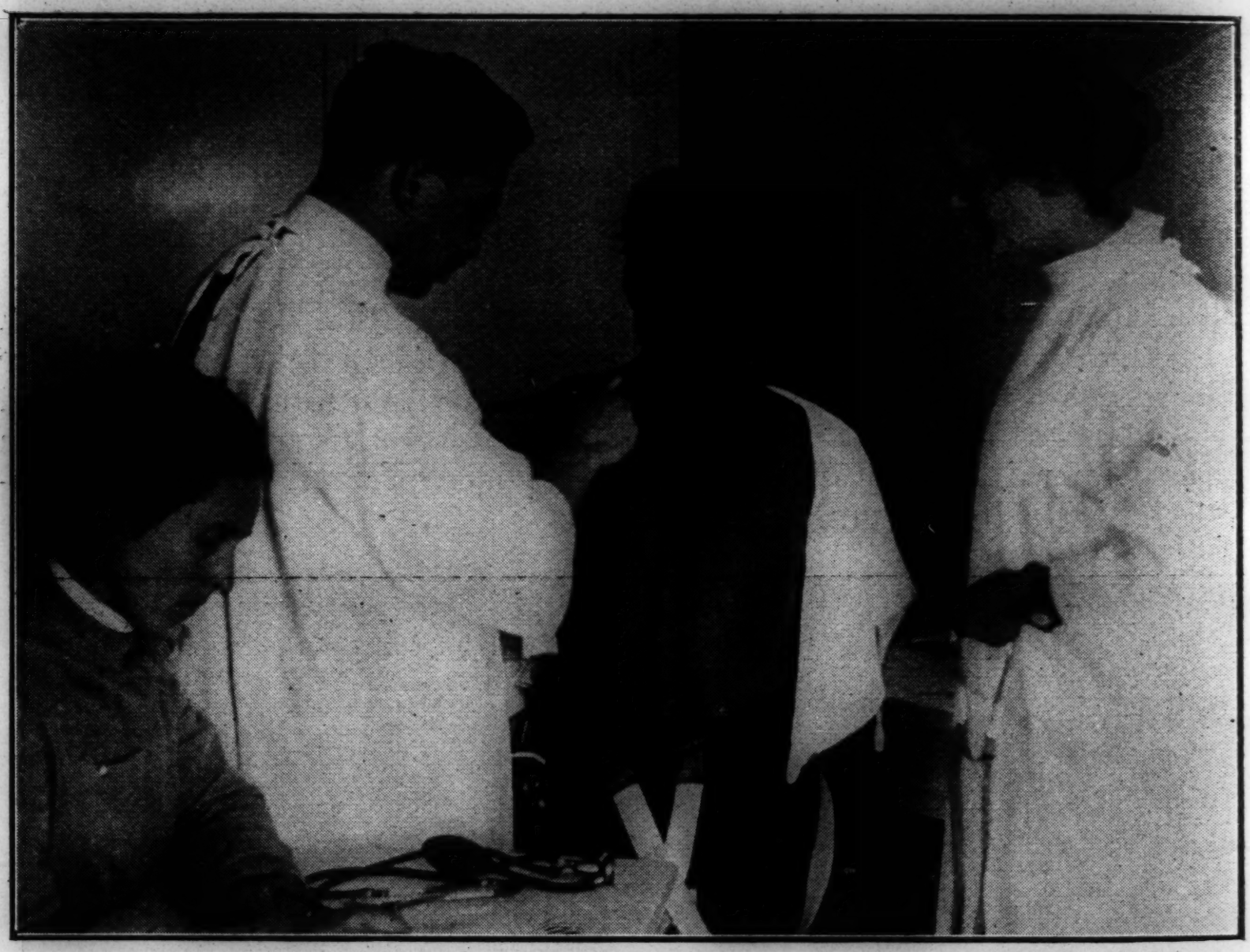
A room in the Los Angeles City Tuberculosis Dispensary. Hundreds of cases are treated here every month.

Stockton, through its Red Cross Dispensary and nurse, has just completed an interesting survey of San Joaquin County. A spot map, showing the results accomplished by the survey, hangs on the dispensary walls. Treatments are given twice a week.

The dispensary at San Jose has done enough work already to deserve recognition from the city. This should take the form of an appropriation, either for the maintenance of the visiting nurse or financing the work of the dispensary.

Sacramento will soon open a much needed dispensary.

The following cities have nurses who are doing tuberculosis visiting nursing, supported by local societies: Long Beach (1), San Diego (1), San Jose (1), San Francisco (5), Santa Barbara (4), Riverside (1), and Sacramento (1). Cities having nurses who are doing tuberculosis visiting nursing supported by appropriations from the city: Pasadena (2), Los Angeles (10), Bakersfield (1), and Sierra Madre (1). Monrovia has a general visiting nurse. None of these nurses are school nurses.



Examination of a tuberculous patient in the new Los Angeles Tuberculosis Dispensary.

MASSACHUSETTS FAVORS FEDERAL LEPROSARIUM.

THE COMMONWEALTH OF MASSACHUSETTS,
STATE DEPARTMENT OF HEALTH,
BOSTON.

November 1, 1915.

State Board of Health of California,
Sacramento, California.

GENTLEMEN: I have the honor to inform you that at a meeting of the Public Health Council of the State Department of Health, held on October 19, 1915, the question of the establishment of a national leprosarium was considered, in accordance with your request, and the Council later adopted the enclosed resolutions.

Respectfully,

(Signed) A. J. MCLAUGHLIN,
Commissioner of Health.

RESOLUTIONS.

WHEREAS, The total number of lepers in the Commonwealth of Massachusetts is so small, being on an average not more than eleven at any one time; and

WHEREAS, Practically all of these are aliens in whom the disease has not been discovered until the expiration of the period during which, if an alien becomes a public charge, he may be deported (owing to the fact that the period of incubation in leprosy is so long), it would reasonably appear that the care and control of these leprous aliens should be a function of the Federal Government; and

WHEREAS, By collecting at a certain point or points in the United States all of the lepers now under control, it will be possible to secure improved expert medical service for the thorough study and scientific investigation of a disease in which recent experiments at the larger leper colonies in the Philippines and at Hawaii seem to furnish grounds for the belief that the clinical possibilities for the arrest of the disease are greater than have hitherto been supposed; and

WHEREAS, The institution now maintained by the Commonwealth at a tremendous overhead expense for the care of lepers, could readily be enlarged to accommodate a much larger number, thereby greatly reducing the enormous expense per capita per week, at present $49.50, and which institution could be transferred to the Federal Government at a nominal cost; therefore, be it

Resolved, That the Public Health Council of the State Department of Health place itself on record as being in favor of the establishment of a national leprosarium or leprosaria, to be under the control of the Federal Government; and be it further

Resolved, That a copy of this resolution be transmitted to His Excellency, the Honorable David I. Walsh, Governor of the Commonwealth of Massachusetts, and to the State Board of Health of California.

October 25, 1915.

THE OPHTHALMIA NEONATORUM LAW.

By Dr. Edward F. Glaser, San Francisco, Member California State Board of Health.

One of the most meritorious bills passed by the 1915 legislature is designed to prevent blindness in infants from infectious inflammation of the eyes, contracted at birth. This measure originated with the State Board of Health, which is made responsible for the carrying out of its provisions.

This is an age in which the watchword is "Prevention," and ophthalmia neonatorum is the most needless because it is the most preventable of diseases destructive to vision. By most authorities about 40 per cent of all blindness is ascribed to ophthalmia neonatorum. The effective and simple way in which the infection can be checked has caused the adoption of the prophylactic treatment in the sanitary policy of nearly all civilized countries.

Legislative bodies, both in this country and abroad, impressed both from a humanitarian and an economic standpoint with the importance of the disease, have adopted various legal measures for its control. In localities or states having legislation compelling prophylaxis and prompt and adequate treatment, the percentage of blindness from ophthalmia neonatorum has been reduced from 30 per cent of all blindness to about 15 per cent—a demonstration, the importance of which is recognized not only by public health and social workers, but by state authorities in nearly every state of the Union. The reporting of babies' sore eyes is compulsory in over thirty states; the use of a prophylactic compulsory in six states, and free prophylactic outfits are distributed in thirteen.

Many Needlessly Blind.

The census of 1910 showed 1,329 blind people in the State of California. Perhaps more than 350 of these are needlessly blind through the careless or ignorant neglect of the very simple preventive treatment for ophthalmia neonatorum. Contemplation of these facts not only enlists our sympathetic interest, but also enforces the need for stringent legislation. In consequence of the ravages of the disease, destroying their vision, the lives of these defenseless unfortunates are blighted irrevocably, being consigned to a future of unending darkness.

The economic side of the question is likewise of considerable moment. It is estimated that it costs the State $3,000 to educate a blind child.

The new law in California requires doctors, midwives, nurses, parents and any attendant upon the new born to report within twenty-four hours any case of ophthalmia neonatorum to the local health officer, who is required to investigate and report to the State Board of Health and to conform to any regulations that the State Board of Health may promulgate. The investigation of the local health officer would naturally bring about prompt and adequate treatment for all uncared for cases, while the information secured regarding babies who are attended by physicians as well as those who are not, would be valuable in showing the frequency with which the disease occurs and the frequency with which injury results from its neglect. Also, the investigation of the local health officer would protect those coming in contact with the sick child, as the health officer would give instructions to the family as to

the contagiousness of the disease, the care and the hygiene of the patient and of those who come in contact with him.

The duty of the State Board of Health is to enforce the law, making necessary rules and regulations, giving publicity by the distribution of copies of the law to physicians, etc., the dissemination of advice and information concerning the dangers of ophthalmia neonatorum and the need for the prophylaxis, and also furnishing gratuitously a scientific preparation for use as a prophylactic.

Not to Report is Misdemeanor.

The law makes the failure to report any case of ophthalmia neonatorum a misdemeanor subject to a fine. In this law, ophthalmia neonatorum is defined as any inflammatory condition of the eyes occurring within two weeks after birth, independent of the nature of the infection.

The commonest cause of ophthalmia neonatorum is the gonococcus, and the profession has come to understand the disease as an infection of one or both eyes of an infant occurring within the first few days of life, the characteristic symptom of which is a profuse purulent discharge from the eyes caused by the diplococcus of Neisser. Not so rarely as supposed, cases of purulent conjunctivitis in the new born may be caused by other bacteria (as the staphylococcus, streptococcus, the pneumococcus, the Klebs-Loeffler bacillus, the colon bacillus and other bacteria), and these cases would be within this law.

Available data would suggest that about 65 per cent of inflamed eyes among infants is due to gonorrheal infection, although the 1914 report of the New York City Department of Health showed that but 34 of the 167 cases reported were proved to be of gonorrheal origin. The Massachusetts Charitable Eye and Ear Infirmary report for 1914 51 per cent of their cases of ophthalmia neonatorum as proven due to the gonococcus.

The law requires the reporting of the ophthalmia neonatorum within twenty-four hours. This emphasizes and makes necessary early recognition and diagnosis, which is important, as delay may prove dangerous and cause blindness. Neglected, it becomes much more difficult or even impossible to cure, and without adequate treatment enough damage may be done in one day to result in partial or total blindness.

Prophylactic Distributed Free.

The law directs the free distribution by the State Board of Health of a scientific prophylactic. This is accomplished by the Bureau of Communicable Diseases located at the State Hygienic Laboratory, Berkeley. Sample outfits will be sent to each physician and others may be obtained not only from the State Hygienic Laboratory, but also from the branch laboratories in Los Angeles, Sacramento, Fresno and from the depositories (about 200) which the State Hygienic Laboratory maintains in the drug stores of many cities and towns throughout the State. Also city boards of health and the health officers throughout the State will be supplied with outfits for distribution. The scientific prophylactic selected is a 1 per cent solution of nitrate of silver. The value of the use of silver nitrate (the Crede method) as a prophylactic measure is unquestioned.

The California State Board of Health outfit consists of a round wooden container in which is placed a wax ampule holding sufficient 1 per cent solution of nitrate of silver for both eyes of one case and directions for opening the ampule and for using the solution. The directions state that clean hands must first cleanse the lids and surrounding area with water that has been boiled, wiping the lids from the nose outward. Then the lids should be separated and two drops of the solution dropped into each eye.

May we not look forward to the time when, by the required immediate report, by instruction and supervision of all obstetricians and maternity hospitals, by public health education with regard to the value of prophylaxis and prompt treatment, the percentage of cases of blindness caused by ophthalmia neonatorum will be reduced from 30 per cent to 3 per cent?

THE OPHTHALMIA NEONATORUM ACT.

(Chapter 724, Statutes of 1915.)

An act to prevent blindness from ophthalmia neonatorum; to vest certain powers and duties in the state board of health and health officers; to impose certain duties upon physicians, midwives, nurses, and other persons; and to provide for the enforcement of this act, and the repeal of chapter XIV, statutes of 1897, entitled "An act to regulate medical practice, to prevent blindness in infants," and other acts in conflict herewith.

[Approved June 11, 1915.]

The people of the State of California do enact as follows:

SECTION 1. Any condition of the eye, or eyes, of any infant in which there is any inflammation, swelling or redness in either one or both of eyes of any such infant, either apart from or together with any unnatural discharge from the eye, or eyes, of any such infant, at any time within two weeks after its birth, shall, independent of the nature of the infection, for the purpose of this act, be called ophthalmia neonatorum.

SEC. 2. **It shall be the duty of any physician, surgeon, obstetrician, midwife, nurse, maternity home or hospital of any nature, parent, relative, and any person or persons attendant upon, or assisting in any way whatsoever, either the mother or child, or both, at childbirth, in all cases where such child shall develop within two weeks after its birth ophthalmia neonatorum, and such person shall know the same to exist, to report the case within twenty-four hours after knowledge of the same, in such form as the state board of health shall direct, to the local health officer of the county or municipality within which the mother of any such infant may reside.**

SEC. 3. It shall be the duty of the local health officer:

1. To investigate each case as shall be filed with him in pursuance with this act, and all other such cases as may come to his attention.

2. To report all cases of ophthalmia neonatorum coming to his knowledge, and the result of all such investigations as he shall make to the state board of health, in such form as said board shall direct.

3. To conform to such rules and regulations as the state board of health shall promulgate for the purpose of carrying out the provisions of this act.

SEC. 4. It shall be the duty of the state board of health:

1. To enforce the provisions of this act.

2. To promulgate such rules and regulations as the state board of health may deem necessary to properly carry out the provisions hereof.

3. **To provide for the gratuitous distribution of a scientific prophylactic for ophthalmia neonatorum, together with proper directions for the use and administration thereof, to all physicians, midwives and such other persons as may be lawfully engaged in the practice of obstetrics or assisting at childbirths.**

4. To print and publish such further advice and information concerning the dangers of ophthalmia neonatorum and the necessity for prompt and effective treatment thereof, as said board may deem necessary.

5. **To furnish without cost copies of this law to all physicians, midwives and such other persons as may be lawfully engaged in the practice of obstetrics or assisting at childbirths.**

6. To keep a proper record of any and all cases of ophthalmia neonatorum as shall be filed in their office in pursuance with this law, and as may come to their attention in any way, and to constitute such records as part of the biennial report to the governor and the legislature.

7. **To report any and all violations of this act as may come to their attention to the district attorney of the district wherein any violation of any provision of this act may have been committed, for the purpose of prosecution.**

SEC. 5. **It shall be the duty of all maternity homes, hospitals, and similar institutions wherein childbirths shall occur, to keep a record of all cases of ophthalmia neonatorum occurring or discovered therein. Such record shall be in the form and contain the matters which the state board of health shall prescribe.**

SEC. 6. The failure of any person mentioned in section 2 hereof to report, or the failure of any maternity home, hospital, or similar institution, to record any and all cases of ophthalmia neonatorum, as herein directed, or the failure or refusal of any person or institution, herein mentioned, to obey any rule or regulation adopted by the state board of health under this act, shall constitute a misdemeanor, and upon conviction thereof shall be fined, for the first offense not to exceed fifty dollars; for a second offense not to exceed one hundred dollars; and for a third offense, and thereafter, not to exceed two hundred dollars for each violation; and after the third conviction, if

the person be a physician, midwife, or other person professionally employed, such conviction shall be a sufficient cause for the revocation of the license of such person by the board which granted the same. One-half of all fines collected hereunder shall go to the county wherein the prosecution was had, and the remaining one-half thereof shall go into the state treasury and constitute a special fund to be expended by the state board of health for the purposes of carrying out the provisions of this act. Any case of ophthalmia neonatorum, or the resultant blindness therefrom, upon which the accused may have been in attendance as hereinafter set forth, shall be prima facie evidence of knowledge of such case by the accused.

SEC. 7. Chapter XIV, statutes of 1897, entitled "An act to regulate medical practice, to prevent blindness in infants," approved February 17, 1897, and all other acts and parts of acts in conflict herewith are hereby repealed.

TRACHOMA—A REPORTABLE DISEASE.

By DR. EDWARD F. GLASER, San Francisco, Member California State Board of Health.

California, with its wealth of climate, food products, plenty of opportunity, and space for every one, has fortunately had comparatively few cases of trachoma, the disease which finds its most congenial soil in filthy housing and personal uncleanliness. Notwithstanding the statement that trachoma will be found most prevalent where abound emigrants from southeastern Europe and Asia, California has relatively few cases.

The legal and administrative control of trachoma has hitherto been a matter more of federal than of state initiative. Surgeons of the United States Public Health Service, stationed at points of embarkation, have done invaluable work in preventing an influx of trachomatous patients.

The federal health service has made a survey of trachoma in most of the southern states and among the Indians.

At present in the southern states the control of trachoma is one of their biggest public health problems. It is interesting to note that in Kentucky, for economic as well as humane reasons, all three political parties, Progressive, Republican and Democratic, have inserted planks in their platforms (the only plank in any of the three dealing in any way with public health) recommending that the state of Kentucky "supplement and later continue the work of the United States Public Health Service for the Prevention of Blindness from Trachoma."

Indians Are Susceptible.

In California the Indians have been peculiarly susceptible to trachoma and there are many blind from this disease among them. It has been estimated that 20 per cent of the Indians have trachoma, but inspection finds this a slightly exaggerated estimate. Recently, cases of trachoma have been reported from Central California among foreign-born laborers and more recently in San Francisco the number of cases has increased; one clinic noting fifteen cases and another eight. Some of these cases are in the native-born. There are no accurate statistics

of cases in private or clinic practice in any district, because, unfortunately, the law making trachoma a reportable disease is not observed, partly through lack of knowledge or realization of its importance on the part of the physician.

It is but a few years ago that the southern states had comparatively few cases—a similar condition to that of California today. Now it has been estimated that in certain sections of the southern states nearly 40 per cent of the inhabitants are suffering from trachoma or its after effects. The development of a similar condition in California can be prevented by the practical co-operation of doctors, nurses and health authorities. Diligent attention should be given to stamping out trachoma wherever it gets a start.

A Reportable Disease.

Trachoma is reportable in sixteen states, and California is one of the sixteen. Physicians should realize the importance of this and of the responsibility upon themselves when they do not report. A case reported is a case safeguarded and a community protected.

Vital statistics are not only of value from an educational, legislative and administrative point of view, but in health matters are immensely important to all of us individually and collectively. Vital statistics give us the locality, character and number of cases, without which no adequate or comprehensive program can be started in the campaign against the disease.

The solution of the problem of trachoma includes: (1) the exclusion of trachomatous immigrants (which is done effectively by the United States Public Health Service); (2) the reporting of cases to the proper health authority; (3) the following up by the health authority who should isolate (not quarantine) and see, where necessary, that the case receives adequate treatment. The health officer should see that, either through his own efforts or those of a nurse or social worker, the case and its contacts are instructed as to the nature and dangers of trachoma and the importance of the hygiene of the patient and those around him.

Isolation a Necessity.

Trachomatous patients should be excluded from schools, factories and meeting places. They should be isolated and not allowed to use personal or toilet articles accessible to others. Trachoma is a dangerous communicable disease and spreads from the eyes of one member of the family to others, and among people who associate closely and handle the same utensils, books or clothing. The watery discharge from trachomatous eyes is easily transferred to infect other eyes.

Let us, therefore, take warning by the present condition in the southern states and check the spread of the disease in California while it is yet easily controlable. Let us prevent the long continued suffering of the trachomatous patient. Let us prevent the damaged vision and the increase in the number of our blind. Let us prevent the great economic and social loss to the community. And the first requisite in this work is the *reporting* of all cases to the proper health authority.

THE PRESENT STATUS OF THE CAMPAIGN AGAINST PLAGUE IN CALIFORNIA.*

By Passed Assistant Surgeon J. R. HURLEY, U. S. P. H. S.

As so well stated in a recent issue of Public Health Reports, "The presence of plague in rats or ground squirrels is of far more significance than its presence in man, and the history of the disease in a community must be primarily that of its presence in the rodents of the community; plague being present when it exists in rats or ground squirrels just as truly as when it exists in man. In fact, a plague-infected rodent is a much greater menace to the community than is a plague-infected man."

In order to get a viewpoint of the present situation regarding plague in California, it would seem advisable to review briefly the history of the disease in this State.

Plague was first discovered in California in March, 1900, when cases of the disease were found among the Chinese in San Francisco. After considerable delay, the Public Health Service, then known as the Marine Hospital Service, was asked to take charge of eradicative measures in 1901. This outbreak did not assume alarming proportions at any time, and was stamped out by 1904. From 1900 to 1904 there were 121 human cases, with 115 deaths.

In May, 1907, however, the disease reappeared in San Francisco. Request was made by the authorities of San Francisco, concurred in by the state health authorities of California, that the United States Public Health Service assume charge of eradicative measures. This course was authorized by the Secretary of the Treasury and the Service took hold of eradicative measures in August or September of that year, and have been consistently and actively carrying on these operations from that time to the present day.

During the last outbreak in San Francisco there occurred 159 human cases with 77 deaths, the last case occurring in January, 1908.

There was likewise found a total of 398 plague-infected rats, the last plague rat being found in October, 1908.

The records of the San Francisco office show that there have also occurred twenty-nine human cases of plague in the State, outside of San Francisco, distributed as follows:

Alameda County (exclusive of Oakland and Berkeley)	2
Oakland	15
Berkeley	1
Contra Costa County	6
San Benito County	2
Los Angeles (city)	1
San Joaquin County	1
Santa Clara County	1
A total of	29

Adding those occurring in San Francisco gives a grand total of 188 cases of human plague that have occurred in California since May, 1907; or, since March, 1900, a total of 309 human cases.

*Read before the Seventh Annual Conference of State, County and Municipal Health Officials, held at Oakland, California, September 8, 1915.

The last human case occurred in Contra Costa County during July of this year. This case was seen by the writer. It was a typical case of bubonic plague clinically, and was bacteriologically confirmed by the Plague Laboratory of the United States Public Health Service in San Francisco. The patient died July 21, 1915.

The most notable fact in the history of plague in California was the discovery in 1908 that a widespread epizootic of plague existed among the rural ground squirrels. Much speculation has been rife as to how these animals became infected. The writer's theory on the subject, which, so far as known, has never been advanced before, is as follows:

By consulting a map of the central counties of California, in use in the office at San Francisco, whereon by spots of red have been designated the location of the various plague-infected ranches, it was noted that no red spot appears in San Mateo County, immediately adjoining the city of San Francisco on the south. This would show that the ground squirrels did not receive the infection from the rats of San Francisco. On the other hand, Contra Costa County is nearly all red, particularly the western end of the county, in the neighborhood of Port Costa. The red spots in the other counties seem to radiate from this locality as a center, getting fewer and farther between as the distance from Port Costa increases.

It is well known that Port Costa is the principal grain shipping port for the barley and other grain raised in the great central valleys of the State. Here come vessels from all over the world; sailing ships, "tramps," and large steam freighters to load grain for European ports. Considerable grain is scattered along the railroad tracks and freight sheds in this neighborhood, offering sustenance for both the ground squirrels from the adjacent hills and the rats that infest the wharves.

It seems quite probable that at some time, a number of years ago, plague-infected rats wandered ashore from some of those deep sea freighters at Port Costa, and the infected fleas from these animals transferred the disease to our California ground squirrels in this locality, from which plague has since been disseminated throughout the central part of the State.

The following are the counties in which plague-infected ground squirrels have been found, and after each is given, according to the latest records at the time this was written, the date of last case of squirrel plague and the total number of squirrels found infected since May, 1907:

Counties	Date of last case of squirrel plague	Total number of squirrels found infected since May, 1907
Los Angeles	Aug. 21, 1908	1 squirrel
Alameda	July 12, 1915	287 squirrels and 1 wood rat
Contra Costa	Aug. 12, 1915	1,583 squirrels
Fresno	Oct. 27, 1911	1 squirrel
Merced	July 12, 1911	5 squirrels
Monterey	Apr. 10, 1914	6 squirrels
San Benito	Aug. 14, 1915	50 squirrels
San Joaquin	Aug. 26, 1911	18 squirrels
San Luis Obispo	Jan. 29, 1910	1 squirrel
Santa Clara	July 23, 1913	25 squirrels
Santa Cruz	May 17, 1910	3 squirrels
Stanislaus	June 2, 1911	13 squirrels

To August 31, 1915, we have a record of a total of 1,993 plague-infected ground squirrels found in California since 1908.

From the above summary it will be noted that in only three counties of the State have infected squirrels been found in 1915: Alameda, Contra Costa and San Benito. In a number of the counties no infection has been found for from one to five years.

But one infected squirrel was found in Alameda County this year, located on the Peoples Water Company's land, on the side of Grizzly Peak, north of Oakland.

From 1908 to the termination of the fiscal year ending June 30, 1915, intensive squirrel eradicative measures have been carried on by the Service in co-operation with the State Board of Health, under the act of the legislature approved June 7, 1913, in the following nine infected counties: Alameda, Contra Costa, San Joaquin, Stanislaus, Merced, San Benito, Santa Clara, Santa Cruz and Monterey.

Owing to the fact that no plague infection has been found in certain counties for a number of years, and that the formerly infected and adjoining land in each has been thoroughly hunted over during the recent hunting season without discovering further infection, together with the fact that squirrels are practically eradicated, or at least diminished in numbers to the extent of 90 per cent in these counties, it was deemed safe and advisable to discontinue work therein. By the termination of the last fiscal year, operations had therefore been concluded in the following counties: Fresno, Merced, San Joaquin, San Luis Obispo, Santa Clara and Santa Cruz, the men being concentrated in the other counties where the work is still going on, which are Alameda, Contra Costa, Monterey, San Benito and Stanislaus.

It is not unlikely that, upon completion of the hunting throughout the previously infected and adjoining territory of Monterey County, if no further plague infection is developed, work will be discontinued in that county also.

From the evidence at hand, there is reason for belief that plague infection has been eradicated from six of the nine previously infected counties.

In dealing with so virulent and insidious a disease as plague, from lessons learned in the past, it would be unwise to predict to a certainty that the disease is completely wiped out from any particular locality, or that it can be eradicated within any given time. Notwithstanding this, there are reasonable grounds for the belief that plague has been eradicated from all the counties in California except Alameda, Contra Costa and San Benito. Moreover, it seems reasonable to expect that another year, or, at the most, two years work in those counties, of the same intensive character as in the past, should likewise eliminate from them the infection.

Should this be accomplished it will demonstrate for all time what at first seemed to be an impossibility that, given the requisite money, time and men, plague among ground squirrels disseminated over a large terrain can be stamped out, supplemental to the claim that the infection can be eradicated from city rats, which is now a demonstrated fact.

THE NURSES' REGISTRATION ACT IN ITS FIRST TWO YEARS OF ADMINISTRATION.

By ANNA C. JAMMÉ, R. N., Director Bureau of Registration of Nurses.

The Bureau of Registration of Nurses in its administration of the law establishing examination and licensing of graduate nurses to practice as Registered Nurses, completes at this time its first two years of work. The legislature of 1913 enacted the law which provides for a department or bureau under the State Board of Health, to be known as the Bureau of Registration of Nurses. The law also provides that the director of the bureau must be appointed by the State Board of Health and registered under the act.

Nurses Registered Under the Waiver.

A period of nine months, or until July 1, 1914, was provided, whereby nurses who were graduated from a training school giving a general training in connection with a reputable hospital could be registered without examination. This included nurses who had been graduated previously and who were in active practice, retired, or married. During this period 4,728 nurses were granted certificates. The number rejected as ineligible was 66. The rejections were based on the fact that the applicants were not at the time of application residents of the State, or that the training schools from which they graduated did not fulfill the requirements of the law. At the close of this period a special bulletin was issued giving the name of each registered nurse, the hospital from which she graduated, the date of registration and the number of her certificate.

Nurses Registered on Examination.

The Board held the first examination in Sacramento on December 5, 1914, in the assembly room of the Capitol. Forty-six applicants presented themselves for this examination. Forty-two passed the required general average, and four failed.

The second examination was held May 1, 1915, in Los Angeles, in the Hall of Records. Eighty-six were present at this examination. Eighty-four passed and two failed.

The third examination was held in San Francisco on October 12th and 13th, in the amphitheatre of the University of California Medical School; 140 nurses applied for this examination, the result of which has not as yet been determined.

Inspection of Training Schools.

Inspection has been made of the training schools in the State and reports submitted to the Board. From July 1, 1914, to July 1, 1915, eighty-six schools were visited. In some instances several visits were made to one school, which aggregated 142 visits during this period.

As a result of this initial inspection fifty-seven schools were placed on the accredited list for a period of one year; sixteen are awaiting accrediting. Fifteen hospitals closed their training schools of their own volition. The Board preferred to allow every opportunity for the schools to raise their standard of instruction before taking action.

General Effect of the Law.

The general effect of the law in its two years of administration may be determined by its effect upon the graduate nurse; upon the training school; upon the student nurse; and upon public welfare.

The large registration during the waiver demonstrated the faith of the graduate nurse in the benefits of the act. Notwithstanding the fact that the law is not compulsory, the individual nurse has sought registration because of the force of influences acting indirectly, making it necessary that by registration she establish her status as one qualified for her work. In seeking civil service appointments or admission to government positions, such as army, navy or Red Cross nursing service, it is necessary that she shall hold her certificate of registration.

The general effect upon the training schools has been of value. The law provides that all applicants for examination must be graduates of an accredited training school for nurses. The Board outlined certain definite requirements necessary for the schools to comply with before accrediting. It also outlined a recommended course of study to serve as a guide in arranging the schedule of instruction. In schools below the standard the course of instruction was systematized and brought to official requirements. The practical work has been properly balanced and given closer supervision. Proper class rooms, class room equipment, textbooks and reference libraries have in a number of cases been added. Hospitals not maintaining sufficient facilities have arranged affiliations with other accredited schools for periods ranging from six months to one year. It is also worthy of note that the number of nurses' homes erected for the purpose is increasing. The accommodations for the nurses, from a sanitary point of view, have greatly improved and far more attention is now given to general living conditions and to the social life of the nurse.

The effect of the law upon the student nurse may be said to be a matter of personal concern. From the day she enters the school she has constantly before her the fact that she is preparing for an examination by the State. During every day of instruction, in class, at the bedside, in the operating room, or in whatever service, her general standing is a matter of record. This has created a spirit of competition and interest in the training and has robbed it of the elements of mechanical routine. There are at the present time upward of 2,300 nurses training in California. The fact that all schools are reporting an increased number of applicants, and that they are possessed of higher educational qualifications and better preparedness, is significant of the value of state control of nursing education.

Two years is scarcely a sufficient time in which to determine the effect of the law in relation to public welfare. Examination and registration can not guarantee a nurse: it will but serve to show that she has had the minimum technical preparation and has passed the test required by examination. The public, therefore, has the opportunity to ascertain the standing of a nurse and the qualifications of a school established for the training of nurses. The proper conduct of a school for nurses has largely been a matter of indifference to the public; its educational function and possibilities have often been largely undervalued, even by those intimately concerned. The training of a nurse requires intelligent, systematic and sympathetic guidance under well-trained teachers who

are thoroughly conversant with the principles of their work. Under these conditions the student has a far better chance of becoming not only a nurse of technical worth but a woman of character and resource, prepared to meet the obligations and responsibilities of her profession.

Publications of the Bureau.

The following publications have been issued and can be obtained by applying to the Bureau:

SPECIAL BULLETIN.—"Requirements for Accredited Training Schools for Nurses and a Recommended Course of Study."

BULLETIN No. 8.—"Register of Nurses." Published January 2, 1915.

BULLETIN No. 9.—"Survey of Training Schools for Nurses." Published July 3, 1915.

The following is a list of the accredited training schools for nurses in the State:

Alta Bates Sanitarium, Berkeley.
Alameda Sanatorium, Alameda.
Agnew Sanitarium, San Diego.
Angelus Hospital, Los Angeles.
Buena Vista Sanitarium, San Francisco.
Burnett Sanitarium, Fresno.
Columbia Hospital, San Jose.
Cottage Hospital, Santa Barbara.
County Hospital, San Diego.
California Hospital, Los Angeles.
Children's Hospital, San Francisco.
Clara Barton Hospital, Los Angeles.
County Hospital, San Joaquin County, French Camp.
County Hospital, Los Angeles.
City and County Hospital, San Francisco.
County Hospital, Sacramento.
Dameron Hospital, Stockton.
Emergency and General Hospital, Los Angeles.
East Bay Sanitarium, Oakland.
French Hospital, San Francisco.
Fabiola Hospital, Oakland.
Gilroy Private Hospital, Gilroy.
German Hospital, San Francisco.
Good Samaritan Hospital, Los Angeles.
Glendale Sanitarium, Glendale.
Hanford Sanitarium, Hanford.
Hazel Hawkins Memorial Hospital, Hollister.
Hahnemann Hospital, San Francisco.
Loma Linda Sanitarium, Loma Linda.
Lane Hospital, San Francisco.
Los Angeles Infirmary, Los Angeles.
Mary Jesse Hospital, Santa Rosa.
Mary's Help Hospital, San Francisco.
Mercy Hospital, Bakersfield.
Mount Zion Hospital, San Francisco.
Mater Misericordiæ Hospital, Sacramento.

O'Connor Sanitarium, San Jose.
Pasadena Hospital, Pasadena.
Paradise Valley Sanatorium, National City.
Pacific Hospital, Los Angeles.
Peninsula Hospital, Palo Alto.
Pomona Valley Hospital, Pomona.
Providence Hospital, Oakland.
Ramona Hospital, San Bernardino.
Redlands Hospital, Redlands.
Riverside Hospital, Riverside.
Roosevelt Hospital, Berkeley.
San Luis Sanitarium, San Luis Obispo.
St. Winifred's Hospital, San Francisco.
St. Helena Sanitarium, St. Helena.
St. Luke's Hospital, San Francisco.
St. Mary's Hospital, San Francisco.
Samuel Merritt Hospital, Oakland.
St. Joseph's Home and Hospital, Stockton.
St. Joseph's Hospital, San Diego.
Sequoia Hospital, Eureka.
St. Francis Hospital, San Francisco.
San Antonio Hospital, Upland.
Trinity Hospital, San Francisco.
University of California Hospital, San Francisco.
White Hospital, Sacramento.

THE NOVEMBER MEETING OF THE STATE BOARD OF HEALTH.

The State Board of Health met at the office of the Board in Sacramento on November 6th. The members present were Dr. George E. Ebright, President; Dr. Fred F. Gundrum, Vice-President; Dr. Edward F. Glaser, Dr. Adelaide Brown, Dr. Robert A. Peers, and Dr. Wilbur A. Sawyer, Secretary.

On account of the marked increase in the work of the Bureau of the Hygienic Laboratory and in the variety of its functions, the name of the Bureau was officially changed to the more correctly descriptive title, Bureau of Communicable Diseases, by the following resolution:

> *Resolved,* That the State Hygienic Laboratory may be designated, in the public and private communications of the Board, as the Bureau of Communicable Diseases.

The position of Director of the Bureau of Communicable Diseases, formerly known as the Bureau of the Hygienic Laboratory, was filled by the appointment of Dr. James Gordon Cumming, M.D., Dr.P.H., of Ann Arbor, Michigan. Dr. Cumming will enter upon the duties of his office on January 1, 1916. The central office of the Bureau is on the campus of the University of California, in Berkeley.

In accordance with legal advice to the effect that the State Board of Health has no jurisdiction over the sanitation of seagoing vessels, even if they are engaged only in intrastate commerce, it was decided to refer all complaints or other matters pertaining to sanitation on such vessels to the United States officials.

Two instances of arrest and prosecution of alleged violators of the Board's regulations regarding the control of diphtheria carriers were brought to the attention of the Board. In one case the fact of the violation could not be proved by the local authorities and in the other the defendant pleaded guilty.

The Board offered to distribute cards of advice to persons suffering from venereal diseases, through those health departments, clinics and organizations which wish to co-operate. The cards give directions regarding the prevention of spreading the diseases.

The secretary and the attorney to the Board, Mr. Kemper B. Campbell, were instructed to work out a plan for co-operation between the United States District Forester and the State Board of Health in placing warning placards regarding stream pollution in the national forests and enforcing sanitary laws and the regulations of the State Board of Health.

On the recommendation of Mr. C. G. Gillespie, Director of the Bureau of Sanitary Engineering, a temporary permit was granted to the city of Reedley to discharge sewage into the Kings River, on the conditions that they so levee and sandbank the river as to prevent any direct inflow of sewage into the river and that they chlorinate the pond of sewage before the high stage of the river is reached. Plans were made for an early and complete investigation relative to the request of the city for a permanent permit.

A complaint regarding the sewer farm of the city of Chico was received and referred to the Bureau of Sanitary Engineering for investigation.

In accordance with the recommendation of the Director of Sanitary Engineering, a permit was granted to the city of Pittsburg to discharge sewage into New York Slough.

Resolutions passed by the City Trustees of Redding, calling attention to the pollution of the upper Sacramento River, were presented to the Board. The Board instructed Mr. Gillespie, Director of the Bureau of Sanitary Engineering, to investigate.

The Board asked Mr. Gillespie to submit to the Board, at the next meeting, a classification of the streams of California, on a sanitary basis, as complete as the present available data will warrant.

A resolution was passed refusing to permit the discharge of sewage into Lake Tahoe, even after chlorination, as there are other practical methods of disposal. It was reported to the Board that the summer resorts sewering into the lake are making preparations for other methods of sewage disposal in accordance with the recommendations of Sanitary Inspector Ross and Chief Engineer Gillespie.

A plan submitted by Mr. George D. Leslie, Director of the Bureau of Vital Statistics, for detecting failures to report births, was adopted by resolution, and the secretary was instructed to enforce the law against physicians and others who fail to report births.

A paster, to be required in connection with the transportation of bodies, was submitted to the Board by the State Board of Embalmers, and, after minor changes, was adopted by the State Board of Health.

Plans for the distribution of the state tuberculosis subsidy to county hospitals were presented, discussed, and amended. It was decided to

place special emphasis in the requirements for accrediting tuberculosis hospitals, on the diet and care of the patients. The Board agreed, moreover, that the extent of the need in the county must receive consideration, and that county tuberculosis hospitals of highly expensive construction with small bed capacity and a long waiting list would not be approved. It was decided that boards of supervisors contemplating the building of tuberculosis hospitals or wards should submit plans in advance if they desire to receive the subsidy.

The report of the Committee on Tuberculosis, appointed to organize the Bureau of Tuberculosis, was presented by the chairman, Dr. Adelaide Brown, and was accepted, and the committee was discharged.

In accordance with the Director of the Bureau of Registration of Nurses, the following applicants, having complied with the regulations of the Board, were registered as Registered Nurses: Attalee May Buckingham, Lucy F. Conway, Katherine L. McKenna.

The following hospitals, after inspection, were reaccredited for one year, on the recommendation of the Director of the Bureau of Registration of Nurses: County Hospital, San Diego; East Bay Sanitarium, Oakland; Riverside Hospital, Riverside; Samuel Merritt Hospital, Oakland. The Providence Hospital, Oakland, was accredited for one year.

Several large lots of frozen eggs, in cold storage in Los Angeles, previously placed under quarantine by the State Board of Health on the recommendation of the Director of the Bureau of Foods and Drugs, Mr. E. J. Lea, were declared unfit for human consumption and were ordered destroyed.

After extensive investigation and on the recommendation of the Director of the Bureau of Foods and Drugs, sixteen hundred barrels of tomato pulp, in quarantine at San Leandro, were declared unfit for human consumption and ordered destroyed.

A communication from the State Industrial Accident Commission, offering co-operation in the investigation of hookworm disease in the mines, was considered, and the Secretary was instructed to arrange for a conference with the commission to complete plans for an early investigation.

The secretary was authorized to start a collection of lantern views and moving picture films for use in popular public health instruction.

Licenses to operate cold storage warehouses were granted to the following firms: Brandt Brothers, Healdsburg, and the Cudahy Packing Company, Los Angeles.

The next business to come before the Board was the consideration of those violations of the food and drug laws which had been set for hearing on this date. Cases were decided upon their merits, and where prosecution was indicated, they were referred to the district attorney.

W. A. SAWYER,
Secretary.

REPORT OF THE BUREAU OF ADMINISTRATION FOR OCTOBER, 1915.

By W. A. SAWYER, Director.

Public Health Activities of Members of the Board.

Dr. George E. Ebright, President of the Board, spoke at a conference between the State Board of Health and the California Association for the Study and Prevention of Tuberculosis, held at Santa Barbara, October 16th, on "Federal Care of Non-Resident Tuberculosis Indigents."

During October Dr. Adelaide Brown spoke to the nurses (pupil and graduate) of the Pasadena Hospital on "The Nursing Profession and Its Relation to Public Health Work." On October 14th she gave the same talk at the Los Angeles County Hospital. Dr. Brown gave also the following lectures during October:

October 16th, "The Conservation of Mothers and Babies," before the Woman's Club of Santa Barbara.

October 23d, "Public Health a Duty of Democracy, and Woman's Relation to It," before the California Civic Center meeting in San Francisco.

October 27th, the same subject before the Century Club of San Francisco.

October 28th the State Board of Charities and Corrections invited the members of the State Board of Health to a conference in San Francisco, to discuss methods of co-operation between the boards, especially in relation to the licensing of hospitals and the collection of statistics. The conference was attended by the following members of the State Board of Health: Drs. Ebright, Gundrum, Glaser, Brown and Sawyer.

The Secretary, Dr. Sawyer, gave a talk on "Health and Hygiene in the Schools," as one of a series of talks arranged by the School Study Committee of the Collegiate Alumnæ and the San Francisco Center of the California Civic League. The talk was given October 16th in the California Theatre in the Palace of Education at the Panama-Pacific Exposition, and was followed by a demonstration of the public health exhibits.

October 26th, Dr. Sawyer held a conference with the State Board of Embalmers and Mr. Leslie, Director of the Bureau of Vital Statistics, to discuss a proposed form for a transportation permit and regulations for the transportation of the dead.

October 27th, Dr. Sawyer attended a conference with the State Industrial Commission relative to sanitary regulations for employees in food manufacturing establishments.

SANITARY INSPECTIONS.

EDWARD T. ROSS, Sanitary Inspctor.

During the month of October a number of inspections and reinspections were made in the city of Oakland and in Sonoma and Mendocino counties. The premises visited consist of some thirty-four summer resorts, eight sewage disposal systems, three water supplies, and a number of hospitals, slaughter houses, canneries, restaurants, bakeries, lodging houses, creameries, etc.

Of the thirty-four summer resorts mentioned, eleven were first inspections. Of these the following were found in satisfactory condition: Agua Caliente Inn Resort, Cazes French Resort, Clement's Inn Resort, Cabanot Hotel Resort, and Skaggs Hot Springs. The remaining twenty-three were reinspections. Of these the following were found in satisfactory condition: Italia American Hotel Resort, Heidelberg Inn Resort, Fetters Springs Resort, The Oaks Resort, Cantor's Resort, The Gables Resort, Sonoma Grove Resort, Oak Grove Resort, French Cottage Resort, Hotel Bellevue Resort, Fest Farm Resort, S. Ziefman Resort, Manuck's Resort, Crane's Resort, Villa Savoy Resort, Paul's Resort, and Family Hotel Resort. These premises have installed proper sewage disposal systems and have complied with all requirements recommended by the State Board of Health.

The trouble in practically all summer resorts, which were not found in satisfactory condition, is due to improper methods employed in disposing of sewage, garbage, etc. The owners of all such premises who have been interviewed, state that they are willing to comply with any recommendations that will tend to improve sanitary conditions. In a number of instances arrangements have already been made for the installation of septic tanks and for the proper disposal of garbage and rubbish.

In addition to the inspections and reinspections made during the month, thirty-one sanitary reports were prepared and submitted.

Inspections.		Reinspections.	
Summer resorts	11	Summer resorts	23
Hospitals	3	Slaughter houses	2
Sewage disposal systems	8	Lodging houses	14
Water supplies	3	Restaurants and bakeries	5
Slaughter houses	4	Creameries	2
Chinese laundries	4	Candy factories	1
Restaurants and bakeries	4		
Canneries	2		
Miscellaneous inspections	43		

Sanitary Reports Submitted.

Summer resorts	24
Towns (Truckee)	1
West Oakland (marsh lands, etc.)	1
Slaughter houses	1
Lodging houses	4
Inspections	82
Reinspections	47
Total	129
Total sanitary reports submitted	31

MORBIDITY REPORTS.

GUY P. JONES, Morbidity Statistician.

There are still very few cases of smallpox in the State, only four having been reported during October. Typhoid fever is not so prevalent as it generally is at this time of year, 104 cases having been reported during October. The number of cases of measles is very greatly diminished, only thirty cases having been reported during October. Physicians are reporting cases of tuberculosis more faithfully than ever before; 567 cases were reported during October. There have been comparatively few cases of communicable disease reported during the month of October.

Smallpox.

Distribution of Cases reported during October, 1915.

Counties and cities	Number new cases reported during month	Deaths	Vaccination history of cases			
			Number vaccinated within seven years preceding attack	Number last vaccinated more than seven years preceding attack	Number never successfully vaccinated	Vaccination history not obtained or uncertain
Alameda County						
Oakland	1					1
Mariposa County	2				2	
San Bernardino County						
San Bernardino	1				1	
Totals	4				3	1

Typhoid Fever.

Distribution of Cases reported during October, 1915.

Counties and cities	Number of new cases reported during month	Counties and cities	Number of new cases reported during month
Alameda County		San Joaquin County	
Oakland	9	Stockton	4
Pleasanton	1	San Luis Obispo County	
Colusa County	1	San Luis Obispo	1
Fresno County	1	San Mateo County	
Clovis	1	Redwood City	1
Firebaugh	1	Santa Barbara County	
Fresno	5	Santa Barbara	3
Humboldt County		Santa Clara County	1
Eureka	4	Santa Clara	2
Kern County	2	Santa Cruz County	
Bakersfield	3	Watsonville	1
Los Angeles	2	Siskiyou County	2
Alhambra	2	Solano County	
Los Angeles	17	Vallejo	1
Monterey County		Sonoma County	1
Monterey	1	Stanislaus County	2
Orange County	3	Sutter County	3
Sacramento County		Tehama County	1
Sacramento	5	Tulare County	
San Benito County	1	Porterville	1
San Diego County		Yolo County	1
National City	1		
Oceanside	3	Total	104
San Francisco	18		

Poliomyelitis (Infantile Paralysis).

Distribution of Cases reported during October, 1915.

Counties and cities	Number of new cases reported during month
Fresno County	1
Los Angeles County	
Los Angeles	2
Placer County	
Roseville	1
Total	4

Epidemic Cerebrospinal Meningitis.

Distribution of Cases reported during October, 1915.

Counties and cities	Number of new cases reported
Los Angeles County	
Los Angeles	1
San Francisco	1
Total	2

Scarlet Fever, Measles, Diphtheria, Dysentery and Other Diseases.

Distribution of Cases reported during October, 1915.

Disease	Total number of new cases reported during the month in the entire State
Scarlet fever	303
Measles	30
Diphtheria	294
Chickenpox	106
Erysipelas	15
Gonococcus infection	31
Malaria	49
Mumps	54
Pneumonia	67
Syphilis	40
Tubeculosis	567
Whooping-cough	75
German measles	3
Trachoma	7
Tetanus	3

REPORT OF THE BUREAU OF VITAL STATISTICS.

GEORGE D. LESLIE, Director.

Length of Residence for Tuberculosis Decedents.

Statistics for several years past show that many victims of tuberculosis in California had resided in the State only a short time before death. The proportion of recent residents among tuberculosis decedents is particularly great in Southern California. This appears from the following condensed statement of statistics on the subject for 1914, as well as for 1909 to 1913 by way of comparison:

Length of Residence.

	Total tuberculosis decedents	Under 1 year	1 to 9 years	10 years and over	Life	Unknown
The State:						
Numbers, 1914	5,320	427	1,500	1,544	1,435	414
Per cents, 1914	100.0	8.0	28.2	29.0	27.0	7.8
Average, 1909 to 1913	100.0	9.2	25.0	24.9	29.0	11.9
Northern and Central California:						
Numbers, 1914	3,014	119	550	1,013	1,084	248
Per cents, 1914	100.0	3.9	18.3	33.6	36.0	8.2
Average, 1909 to 1913	100.0	3.5	14.6	28.4	38.8	14.7
Southern California:						
Numbers, 1914	2,306	308	950	531	351	166
Per cents, 1914	100.0	13.4	41.2	23.0	15.2	7.2
Average, 1909 to 1913	100.0	16.8	39.0	20.2	15.8	8.2

In the State as a whole altogether one third of the tuberculosis decedents were residents of less than ten years' standing, the per cents for 1914 totaling 36.2, and the average for 1909 to 1913 being 34.2. Decedents who had lived in the State under one year were 8.0 per cent of all in 1914 and 9.2 per cent in 1909 to 1913.

In Southern California, furthermore, persons with a residence of under ten years formed more than half of all succumbing to tuberculosis, the per cents aggregating 54.6 and 55.8 for 1914 and for 1909 to 1913, respectively. Those who had lived in California less than a year were 13.4 per cent of all tuberculosis victims in 1914 and 16.8 per cent in the preceding five-year period.

In fact, many who died of tuberculosis in Southern California had lived in the State only a few months. This is shown clearly by the following figures for both 1914 and for 1909 to 1913 on length of residence for tuberculosis decedents.

Length of residence	1914		Annual average per cent, 1909 to 1913
	Deaths from tuberculosis	Per cent of total	
Southern California—			
Total under 1 year	308	13.4	16.8
Under 1 month	34	1.5	1.8
1 to 2 months	77	3.4	4.5
3 to 5 months	88	3.8	4.8
6 to 11 months	109	4.7	5.7

It appears that among those who died of tuberculosis in Southern California in 1914 some 34, or 1.5 per cent of all, had been in the State less than a month; altogether 111, or 4.9 per cent, less than three months, and altogether 199, or 8.7 per cent, less than six months. In 1909 to 1913, similarly, an average of 1.8 of all tuberculosis decedents south of Tehachapi had resided in California under one month; altogether 6.3 per cent under three months, and altogether 11.1 per cent less than half a year.

Moreover, deaths of recent residents in California as a whole occur very largely indeed among those afflicted with tuberculosis. This is indicated by data available for 1914 alone presented herewith:

Length of residence	Deaths, 1914		
	All causes	Tuberculosis	Per cent
State total	37,537	5,320	14.2
Under 1 year	1,801	427	23.7
1 to 9 years	7,565	1,500	19.8
10 years and over	14,780	1,544	10.5
Life	10,073	1,435	14.2
Unknown	3,318	414	12.5

Thus, while tuberculosis was the cause of death in 14.2 per cent of all cases in California in 1914, it was the cause for nearly one-fourth (23.4 per cent) of the deaths among residents of under one year and for about one-fifth (19.8 per cent) among those who had lived here only one to nine years.

Paradoxical though it may seem, therefore, the very healthfulness of the California climate tends to increase rather than lessen the number of deaths occurring in this State. Many people stricken in other states come here to lengthen lives already doomed.

Births, Deaths and Marriages for September.*

State Totals and Annual Rates.—The following table shows for California as a whole the birth, death and marriage totals for the current and preceding months in comparison with those for the corresponding months of last year, as well as the annual rates per 1,000 population represented by the totals for the current and preceding months. The rates are based on an estimated midyear population of 2,854,727 for California in 1915, the estimate having been made by the Census Bureau method with slight modifications.

*NOTE.—The present report is for the month preceding, but one. This order must be followed hereafter, because of the publication of the Bulletin during the early part of the month, before the tabulation of records for the preceding month is completed.

Birth, Death and Marriage Totals, with Annual Rates per 1000 Population, for Current and Preceding Months, for California: September.

Month	Monthly total		Annual rate per 1,000 population 1915
	1915	1914	
September—			
Births	4,296	4,041	18.3
Deaths	3,008	2,804	12.8
Marriages	2,887	2,826	12.3
August—			
Births	4,200	4,016	17.3
Deaths	2,997	2,792	12.4
Marriages	2,661	2,541	11.0

The birth and death totals for September were each considerably greater in 1915 than in 1914, while the marriage total was only slightly greater this year than last.

Further improvements in registration under the new law of 1915, make the birth total for September the very highest reported for any month since the beginning of registration in 1905. The birth registration for September, 4,296, exceeded the death total, 3,008, by no less than 1,288, or 42.8 per cent.

Length of Residence.—As to deaths, it may be noted that for the 3,008 decedents in September the length of residence in California was as follows: Under 1 year, 128, or 4.2 per cent; 1 to 9 years, 544, or 18.1 per cent; 10 years and over, 1,278, or 42.5 per cent; life, 773, or 25.7 per cent; and unknown, 285, or 9.5 per cent.

County Marriage Totals.—The counties showing the highest marriage totals for the month were as follows: Los Angeles, 642; San Francisco, 600; Alameda, 293; San Diego, 135; Orange, 133; Sacramento, 87; Santa Clara, 82; Fresno, 69; San Joaquin, 68; San Bernardino, 65; Marin, 58; and Sonoma, 53. The aggregate for San Francisco and other bay counties was 1,041, against 775 for Los Angeles and Orange counties together.

County Birth and Death Totals.—Exclusive of stillbirths in both cases, the birth and death totals for the month were as follows for the leading counties, arranged in decreasing order of birth registration:

County	Births	Deaths	County	Births	Deaths
Los Angeles	1,087	680	Orange	98	54
San Francisco	690	575	Tulare	88	43
Alameda	366	273	San Joaquin	86	87
Santa Clara	251	109	Butte	67	27
Fresno	153	75	Kern	67	31
Sacramento	126	87	Santa Barbara	57	31
San Diego	123	108	Riverside	51	42
San Bernardino	106	81	Sonoma	50	67

City Birth and Death Totals.—Birth and death totals, exclusive of stillbirths, are presented similarly for the principal California cities below:

City	Births	Deaths	City	Births	Deaths
San Francisco	690	575	Fresno	49	23
Los Angeles	674	401	Santa Barbara	41	16
Oakland	230	164	Long Beach	39	40
Sacramento	96	75	Bakersfield	38	22
San Diego	91	73	Alameda	34	24
Berkeley	70	39	San Jose	33	31
Pasadena	55	27	Santa Monica	33	7
Stockton	50	55	Santa Ana	32	14

Cause of Death.—The following table shows the classification of deaths in California for the current month, in comparison with the preceding month:

Deaths from Certain Principal Causes, with Proportion per 1,000 Total Deaths, for Current and Preceding Month, for California: September.

Cause of death	Deaths: September	Proportion per 1,000	
		August	September
All causes	3,008	1,000.0	1,000.0
Typhoid fever	29	9.6	12.0
Malarial fever	4	1.3	2.0
Measles	1	0.3	1.0
Scarlet fever	1	0.3	1.3
Whooping-cough	9	3.0	4.0
Diphtheria and croup	22	7.3	4.3
Influenza	3	1.0	----------
Other epidemic diseases	12	4.0	2.7
Tuberculosis of lungs	343	114.0	116.5
Tuberculosis of other organs	59	19.6	15.3
Cancer	219	72.8	79.8
Other general diseases	130	43.2	48.1
Meningitis	22	7.3	8.0
Other diseases of nervous system	222	73.8	76.8
Diseases of circulatory system	563	187.2	171.2
Pneumonia and broncho-pneumonia	175	58.2	47.7
Other diseases of respiratory system	46	15.3	13.7
Diarrhea and enteritis, under 2 years	104	34.6	29.7
Diarrhea and enteritis, 2 years and over	42	14.0	14.0
Other diseases of digestive system	146	48.6	59.4
Bright's disease and nephritis	209	69.5	69.7
Childbirth	30	10.0	9.7
Diseases of early infancy	121	40.2	43.0
Suicide	78	25.9	24.0
Other violence	309	102.7	108.4
All other causes	109	36.3	37.7

In September there were 563 deaths, or 18.7 per cent of all, from diseases of the circulatory system, and 402, or 13.4 per cent, from various forms of tuberculosis, heart disease thus leading tuberculosis greatly.

Other notable causes of death in September were: Violence, 387; diseases of the digestive system, 292; diseases of nervous system, 244; diseases of respiratory system, 221; cancer, 219; Bright's disease and nephritis, 209; and epidemic diseases, 81.

The deaths from epidemic diseases were as follows: Typhoid fever, 29; diphtheria and croup, 22; whooping-cough, 9; and all other epidemic diseases, 21.

The deaths from the three leading epidemic diseases reported for the month were distributed by counties as follows:

Typhoid fever		Diphtheria and croup		Whooping-cough	
Alameda	4	Los Angeles	8	Alameda	1
Butte	5	Sacramento	1	Contra Costa	1
Calaveras	1	San Benito	1	Los Angeles	3
Colusa	1	San Diego	1	Riverside	1
Contra Costa	1	San Francisco	3	San Joaquin	1
Los Angeles	1	San Joaquin	1	Santa Clara	1
Sacramento	1	San Mateo	2	Stanislaus	1
San Diego	1	Santa Clara	3		
San Francisco	5	Yuba	2	Total	9
San Joaquin	2				
Santa Barbara	1	Total	22		
Solano	1				
Stanislaus	1				
Sutter	1				
Tulare	1				
Yuba	2				
Total	29				

Geographic Divisions.—The following table presents data for geographic divisions, including the metropolitan area, or San Francisco and the other bay counties (Alameda, Contra Costa, Marin, and San Mateo), in comparison with the rural counties of Northern and Central California:

Deaths from Main Classes of Diseases, for Geographic Divisions: September.

Geographic division	Deaths: September										
	All causes	Epidemic diseases	Tuberculosis (all forms)	Cancer	Diseases of nervous system	Diseases of circulatory system	Diseases of respiratory system	Diseases of digestive system	Bright's disease and nephritis	Violence	All other causes
The State	3,008	81	402	219	244	563	221	292	209	387	390
Northern California	368	17	35	22	29	76	28	29	19	68	45
Coast counties	186	3	20	15	18	36	17	10	9	35	23
Interior counties	182	14	15	7	11	40	11	19	10	33	22
Central California	1,612	39	186	120	123	313	134	164	122	210	201
San Francisco	575	9	66	41	49	120	64	47	41	70	68
Other bay counties	374	9	39	32	28	86	24	38	33	35	50
Coast counties	197	5	22	17	18	49	10	24	11	24	17
Interior counties	466	16	59	30	28	58	36	55	37	81	66
Southern California	1,028	25	181	77	92	174	59	99	68	109	144
Los Angeles	680	18	124	51	50	114	45	61	54	63	100
Other counties	348	7	57	26	42	60	14	38	14	46	44
Northern and Central California	1,980	56	221	142	152	389	162	193	141	278	246
Metropolitan area	949	18	105	73	77	206	88	85	74	105	118
Rural counties	1,031	38	116	69	75	183	74	108	67	173	128

Sex, Race and Nativity.—The proportion of the sexes among the 3,008 decedents in September was: Male, 1,860, or 61.8 per cent; and female, 1,148, or 38.2 per cent.

The race distribution of decedents was: White, 2,831, or 94.1 per cent of all; Japanese, 68; Chinese, 56; negro, 42; and Indian, 11.

The 2,831 white decedents were classified by nativity as follows: California, 721, or 25.5 per cent; other states, 1,100, or 38.9 per cent; foreign countries, 913, or 32.2 per cent; and unknown, 97, or 3.4 per cent.

Sex and Age Periods.—The following table shows the age distribution, by numbers and per cents, of deaths classified by sex:

Deaths Classified by Sex and Age Periods, with Per Cents by Age Periods for California: September.

Age period	Deaths			Per cent		
	Total	Male	Female	Total	Male	Female
All ages	3,008	1,860	1,148	100.0	100.0	100.0
Under 1 year	306	175	131	10.2	9.4	11.4
1 to 4 years	123	73	50	4.1	3.9	4.4
5 to 9 years	53	26	27	1.8	1.4	2.3
10 to 19 years	99	61	38	3.3	3.3	3.3
20 to 29 years	250	158	92	8.3	8.5	8.0
30 to 39 years	311	207	104	10.3	11.2	9.1
40 to 49 years	338	233	105	11.2	12.5	9.1
50 to 59 years	393	259	134	13.1	13.9	11.7
60 to 69 years	484	306	178	16.1	16.4	15.5
70 years and over	651	362	289	21.6	19.5	25.2

This table shows that, generally speaking, relatively more females than males died at the age periods under 20 years as well as at 70 years and over, while relatively more males than females died at the age periods of 20 to 69 years.

REPORT OF THE BUREAU OF HYGIENIC LABORATORY FOR OCTOBER, 1915.

J. C. GEIGER, M. D., Assistant Director.

Bacteriological Examinations of Water.

Bacteriological examinations of water have heretofore been made at this Bureau for citizens of the State free of charge, providing the approval of the local or county health officer was obtained. October 27, 1915, at the request of Mr. Chester G. Gillespie, Director of the Bureau of Sanitary Engineering of the California State Board of Health, Berkeley, this Bureau began to refer to its laboratory all water samples sent in for bacteriological and chemical examination. Requests for such tests in the future will have to be taken up direct with the Bureau of Sanitary Engineering, Berkeley.

In the number of years that the State Hygienic Laboratory has made these examinations, much valuable help has been given to communities in controlling their water supplies, and considerable data has been obtained regarding the presence or absence of pollution of many heterogeneous sources of water supplies in California. The publishing of such necessarily important statistical data in the near future, if only from a comparative standpoint, will no doubt prove interesting and instructive.

Rabies in Coyotes in California.

The first coyote's head sent to this Bureau for examination for rabies came from Tulare County in April, 1913. This coyote's brain proved positive for rabies on microscopical examination, many typical, intracellular Negri bodies being found. This was the only coyote examined until recently.

In February, 1915, two coyote heads were received from Modoc County. Examination of the brains proved negative for rabies by both microscopical examination and animal inoculation. The brain of a coyote trapped in the hills back of Berkeley, Alameda County, was examined for rabies in February, 1915, and found negative on microscopical examination and animal inoculation.

On March 8, 1915, two coyotes' heads were sent by the Forest Supervisor of the Fremont National Forest Station, at Lakeview, Lake County, Oregon. Examination of these heads was made as a courtesy for the State Board of Health of Oregon. Examination of the brains showed many typical Negri bodies within the ganglion cells. In October, 1915, four coyotes were examined for rabies, three from Modoc County and one from Lassen County, all proving positive for rabies.

The results given above of the examinations of heads sent in recently is confirmatory evidence that rabies does exist to an alarming extent among the coyotes in Modoc and Lassen counties. Rabies in coyotes has been known for some time in Oregon, and reports from Nevada show coyotes affected with the disease there. Therefore, it is reasonable to believe that the probable source of infection in Modoc and Lassen counties came from these bordering states, though rabies has previously existed in dogs in Shasta and Siskiyou counties.

Following an investigation of the conditions in Modoc County relative to coyotes being affected by rabies, Dr. W. E. Coppedge, health officer

of Modoc County, recommended that a quarantine area be established to include all of Modoc County, and to apply to domestic cats and dogs. A quarantine was immediately put into effect in accordance with the regulations of the California State Board of Health for the control of rabies. A bounty of $2.50 per head has been placed upon coyotes by the board of supervisors of Modoc County.

Modoc and Lassen counties undoubtedly face a serious outbreak of rabies and already considerable financial damage has been felt in the loss of a number of live stock. Prompt establishment of the known means of control will undoubtedly serve to ameliorate such conditions and check this new outbreak of the disease in California.

The Complement Fixation Reaction in Syphilis.

(Wassermann Test.)

J. C. GEIGER, Assistant Director. GRACE A. MACMILLAN, Bacteriologist.

With Bordet's discovery of the Complement Fixation reaction and the practical application of the phenomena by Wassermann, Bruck, and Detre, to the diagnosis of syphilis, the test known popularly as the "Wassermann" has proved beyond a doubt to be of great diagnostic value, nothwithstanding the dissimilarity of results occurring in the hands of different workers.

In January, 1911, the California State Board of Health added syphilis to the list of reportable diseases and requested the reporting of cases by physicians by office numbers instead of the names of the patients. One of the most important measures instituted for the control of preventable diseases by the State Board of Health was the authorization of this Bureau to make Wassermann tests for any physician in the State free of charge, provided the patient could not afford to pay the regular fee charged for this test. From April 1, 1914, to November 1, 1915, 1,575 Wassermann tests for syphilis have been done at this Bureau along with other routine work. These tests were made for 125 physicians and the specimens came from over fifty cities and towns throughout the State. A large number of specimens came from state institutions, such as prisons, and many examinations were made for the county hospitals.

It is interesting to note that one of the largest tuberculosis clinics in California and a firm controlling a large industry employing numerous foreigners have availed themselves of the services of this Bureau in performing this valuable test. Nevertheless, it is to be regretted that these examinations have been done for a comparatively small number of physicians of this State. The local depositories of the Bureau of the Hygienic Laboratory throughout the State have outfits with directions for the collection and sending of such specimens to the Laboratory, and outfits will be supplied to physicians on application.

Inasmuch as these tests have been made available to physicians under most favorable circumstances as to outfits for collection and methods of sending the specimens, it is hoped to see a considerable increase in the number of such examinations in the future.

Diphtheria.

J. C. GEIGER, Assistant Director. FRANK L. KELLY, Bacteriologist.
VIOLET M. BATHGATE, Bacteriologist.

Diphtheria is widespread throughout the State, and the increase in the number of cultures examined at this Bureau for the presence of the diphtheria bacillus in the last month brings into forceful prominence the fact that we are in the midst of the so-called diphtheria season. Attention is called to the report of examinations of cultures in the investigation of schools for the presence of diphtheria. It will be noted that 552 cultures were examined at this laboratory and its branches in six different school investigations carried on in widely separated communities of the State.

The following tables are based upon the results of these examinations:

TABLE I.

Table Showing Results of Cultures in School Investigations for Diphtheria.

	Total	Total positive	Positive nose	Positive throat	Positive nose and negative throat	Negative nose and positive throat	Positive nose and positive throat
A	132	28	25	10	18	3	7
B	65	24	21	8	16	3	5
C	17	15	14	1	14	1	0
D	55	22	18	6	16	4	2
E	101	6	----------	6	----------	----------	----------
F	99	5	----------	5	----------	----------	----------

TABLE II.

Table of Percentages of Above Investigations.

	Percentage of positives	Percentage of positive throat	Percentage of positive nose
A	21.2	7.6	18.9
B	36.9	12.3	32.3
C	88.2	5.8	82.3
D	40.0	10.9	34.6
E	5.9	5.9	----------
F	5.0	5.0	----------
Average total percentages	32.8	7.9	42.2

NOTE.—87.6 per cent of all positives were found in cultures from nose; 28 per cent of all positives were found in cultures from throat. Diagnoses of positive cultures were made on the finding of typical granular bacilli.

The above tables indicate the importance of taking cultures from both nose and throat in such investigations. It will be noticed that in investigations E and F, in which cultures were taken from the throat only, the percentages of positives are markedly lower than those of the investigations in which cultures were obtained from both nose and throat. The importance of nose cultures is conclusively demonstrated in the percentage average of positives, as nose cultures gave 42.2, compared with the percentage average of throat cultures, 7.9.

Inasmuch as only 28 per cent of all positive cultures in these investigations were from the throat, one can readily see how many positives, 72 per cent, would not have been detected if nose cultures were not taken. Another interesting observation is the total percentage average of positives, 32.8, the majority of which can be classed as diphtheria carriers. This large percentage is undoubtedly due to the fact that probably all the persons examined were recent contacts with diphtheria cases, as cases were present in the school examined.

J. C. GEIGER.

Division of Biological Examinations.

Summary of Examinations Made in the California State Hygienic Laboratory during the Month of October, 1915.

Condition suspected	Positive	Negative	Inconclusive	Total
Main laboratory at Berkeley:				
Anthrax	3	6	----------	9
Diphtheria (diagnosis)	36	91	9	136
Diphtheria (release)	79	57	7	143
Diphtheria (school investigations)[1]	184	245	24	453
Gonococcus infection	12	12	----------	24
Malaria	----------	2	1	3
Rabies	5	7	2	14
Syphilis (Wassermann test)	10	67	6	83
Tuberculosis (sputum examinations)	11	18	1	30
Typhoid (Widal test)	2	29	2	33
Typhoid (excreta)	----------	2	----------	2
Water pollution	14	22	----------	36
Miscellaneous	2	----------	4	6
				972
Northern branch at Sacramento:				
Diphtheria (diagnosis)	5	17	----------	22
Diphtheria (release)	3	20	----------	23
Gonococcus infection	----------	1	----------	1
Malaria	2	----------	----------	2
Tuberculosis (sputum examinations)	4	17	----------	21
Typhoid (Widal test)	6	13	4	23
				92
San Joaquin Valley branch at Fresno:				
Diphtheria (diagnosis)	24	37	4	65
Diphtheria (release)	40	24	1	65
Malaria	----------	2	----------	2
Tuberculosis (sputum examinations)	----------	8	----------	8
Typhoid (Widal test)	----------	7	----------	7
				147
Southern branch at Los Angeles:				
Diphtheria (diagnosis)	14	53	1	68
Diphtheria (release)	8	14	----------	22
Diphtheria (school investigations)[2]	5	94	----------	99
Malaria	----------	1	----------	1
Rabies	1	----------	----------	1
Tuberculosis (sputum examinations)	4	5	----------	9
Typhoid (Widal test)	1	26	----------	27
				227
Total number of examinations	----------	----------	----------	1438

[1]Cultures taken from school children in Visalia 75, Healdsburg 60, Rust 199, Stockton 102, and from students in the University of California, Berkeley (U. C. Infirmary), 17.

[2]Cultures taken from school children in Sierra Madre 99.

Bacteriological Examinations of Water Supplies Made during the month of October, 1915.

Location	Positive	Negative	Inconclusive
Adin		1	
Arlington		1	
Escondido		1	
Hilt		1	
Inyokern	1		
Isleton	1		
Kennett	2	3	
Likely		1	
Los Banos	4	2	
Merced		2	
San Bernardino	1		
San Diego		1	
San Fernando		4	
San Francisco		1	
San Luis Obispo	2		
Santa Rosa		1	
Sterling City	1		
Stockton		1	
Sunnyvale		1	
Williams	1		
Willows		1	
Winters	1		
Totals	14	22	

EXPLANATORY NOTE.

Positive waters mean pollution to varying degrees.

Negative waters are entirely free from sewage contamination and can be considered safe.

Division of Preventive Therapeutics.

Pasteur Treatment for the Prevention of Rabies by the State Hygienic Laboratory during the Month of October, 1915.

	Treatment commenced	Treatment completed
Main laboratory at Berkeley	0	1
Northern branch at Sacramento	0	0
San Joaquin Valley branch at Fresno	0	0
Southern branch at Los Angeles	0	0
Laboratory of Sacramento Board of Health, by deputized bacteriologist	0	0
Laboratory of San Francisco Board of Health, by deputized bacteriologist	0	0
Laboratory of Los Angeles Board of Health, by deputized bacteriologist	3	3
Laboratory of San Diego City Board of Health, by deputized bacteriologist	0	0
Laboratory of Letterman General Hospital, Presidio, by deputized bacteriologist	0	0
Laboratory of United States Naval Hospital, Mare Island, by deputized bacteriologist	0	0
Totals	3	4

Vaccine for the Prevention of Typhoid Fever Issued by the State Hygienic Laboratory during the Month of October, 1915.

Number of physicians to whom vaccine was sent	11
Number of complete treatments sent	206

Public Health Instruction.

Participation in Instruction in Public Health during October, 1915.

Main Laboratory at Berkeley:
- Bacteriological instruction outfits sent out---------- 9
- Bacteriological instruction outfits in use---------- 19
- Lectures or talks by the assistant director---------- 3

Division of Epidemiological Investigations.

Epidemiological Investigations and Other Special Investigations during October, 1915.

Main Laboratory at Berkeley:
- Special investigations by the assistant director and staff---------- 1
  - An investigation of diphtheria in the Fairmont School at Rust, California.
- Special investigations by the assistant director and bacteriologist------- 1
  - Investigation of malaria in California.

REPORT OF THE BUREAU OF TUBERCULOSIS FOR OCTOBER, 1915.

E. L. M. TATE, Director.

The Bureau of Tuberculosis has been deluged with requests this past month. Applications for admittance into hospitals, patients wishing to be transferred, requests in Sacramento for the services of a tuberculosis visiting nurse, who does not exist, and last but not least, offers from the "medicine man" of the omnipresent patent medicines—the "sure cure" that never cures.

Los Angeles was visited early in the month and following a hearing with the county board of supervisors, an emergency appropriation of five thousand dollars was made for temporary sleeping quarters. Conferences were held in reference to the new tuberculosis division, which bids fair soon to be in the front ranks, with its splendid clinics.

The new Fresno County Sanatorium was visited and several visits made to Stockton, both counties having applied for the subsidy, which we hope can be granted as soon as the necessary requirements are reached.

The interesting meeting held at Santa Barbara on the federal bill has such a direct bearing on the work of the Bureau, that much of the work connected with the promoting of the bill will be done from the State Board of Health. Quite in line with California beginning constructive tuberculosis work, it is interesting and appropriate that an administration that has done so much for public health work in the State should have started the agitation for two federal appropriations, one for the segregation of lepers, and one for the care and treatment of non-resident tuberculous indigents. A number of meetings have been held with the San Francisco Civic Center, The Tuesday Club of Sacramento and the Placer County Teachers' Institute. So much work lies ahead for the Bureau that some of the work must be neglected until the more important work of standardizing the county hospitals is completed.

The Bureau hopes to attack the tuberculosis problem this year from two angles, first with a campaign of education in the schools and woman's clubs, and second, to improve hospital conditions so that patients needing hospital care can receive it wherever they may be.

Data for Tuberculosis Cases Reported during September.

Age—	
Under 5 years	5
5 to 14	7
15 to 24	78
25 to 34	135
35 to 44	94
45 and over	95
Unknown	25
Sex—	
Male	282
Female	157
Marital condition—	
Single	179
Married	161
Widowed or divorced	28
Unknown	71
Dwelling—	
Detached	137
Flat	28
Tenement	19
Boarding	8
Hotel	29
Hospital	31
Other	3
Unknown	184
Housing—	
Good	100
Fair	108
Poor	30
Unknown	201
Financial condition—	
Independent	30
Wage-earner	167
Indigent	36
Unknown	206
Occupational condition—	
Good	52
Fair	60
Poor	35
Unknown	292
Nativity—	
California	74
Elsewhere in United States	156
Foreign	144
Unknown	65
Race or color—	
White	380
Negro	8
Indian	1
Chinese	4
Japanese	5
Unknown	41

Length of residence in California—	
Under 1 year	38
1 year	15
2 years	21
3 years	21
4 years	21
5 years	10
6 years	12
7 years	11
8 years	12
9 years	18
10 years	16
10 to 20 years	67
Over 20 years	89
Unknown	88
Number of persons in family—	
Families of 2	30
Families of 3	33
Families from 4 to 9	79
(Average, 5.)	
Tuberculosis in family—	
Father	9
Mother	13
Brother	30
Sister	31
Husband	3
Wife	3
Children	1
Others	8
Bacteriological examination—	
Tubercle bacilli positive	214
Tubercle bacilli negative	22
Not stated	203
Prognosis—	
Good	37
Bad	33
Doubtful	33
Not stated	336
Type—	
Tuberculosis of lungs	408
Tuberculosis of other organs	60
Duplicated	29
Totals—	
Cases reported with data	439
Reported at time of death or later	46
Total living cases	393

	Deaths from pulmonary tuberculosis September	All cases of tuberculosis reported in September		Deaths from pulmonary tuberculosis September	All cases of tuberculosis reported in September
Alameda	25	39	Placer		17
Alpine			Plumas		
Amador	1		Riverside	13	4
Butte			Sacramento	4	8
Calaveras	3		San Benito	2	
Colusa			San Bernardino	13	2
Contra Costa	1		San Diego	12	2
Del Norte			San Francisco	57	124
El Dorado	1		San Joaquin	9	9
Fresno	12	2	San Luis Obispo	2	
Glenn		1	San Mateo	1	1
Humboldt	1		Santa Barbara	2	
Imperial			Santa Clara	11	3
Inyo	1		Santa Cruz	3	
Kern	8		Shasta		
Kings			Sierra		
Lake			Siskiyou		
Lassen			Solano	1	
Los Angeles (city)	68	196	Sonoma	5	1
Rest of county	41	19	Stanislaus	1	2
Madera	1		Sutter		
Marin	3	1	Tehama		
Mariposa		1	Trinity		
Mendocino	3	1	Tulare	3	
Merced	1	1	Tuolumne		
Modoc			Ventura		
Mono	3		Yolo	1	1
Monterey	2	1	Yuba	1	1
Napa	9	1			
Nevada	1				
Orange	5	2			

REPORT OF BUREAU OF SANITARY ENGINEERING.

C. G. GILLESPIE, C.E., Director and Chief Engineer.

As announced in the October Bulletin, this Bureau will henceforth handle all the work of bacteriological analyses of water heretofore done by the State Hygienic Laboratory. The laboratory of this Bureau will make also chemical analyses of water, both sanitary and mineral.

For the first time in this State a comprehensive collection of data on character of its sewages and behavior of sewage disposal works will be undertaken as vigorously as present available laboratory facilities and funds will allow.

Samples will be analyzed gratis on the same basis and conditions as maintained in the past by the Hygienic Laboratory.

Notable diminution in the number of complaints from poorly operated sewage disposal works is to be observed on the approach of cooler weather. It is hoped that before another summer returns changes will be made to prevent the reappearance of local nuisance and stench.

It will be of interest to sanitary engineers and city officials to know that the first Reinsch-Wurl screen to be installed in the State has paased the tuning-up period and is now screening the entire sewage of Long Beach. The behavior of this type of sewage clarifier will be watched with interest by sanitary engineers and sewage disposal men. Its function, like that of tankage treatment, is purely to effect preliminary

clarification; there is no significant removal of bacteria. The slots are one thirty-second of an inch wide, and, based on experience elsewhere, they do not remove as much suspended matter as do tanks.

The final choice of a screen of this type in preference to tankage will depend almost entirely on æsthetics and local factors. Where land values are high or excavation for tanks is excessive or where it is necessary to build the treatment works within built-up sections and where mere clarification or clarification followed by disinfection will be sufficient treatment, an installation of this type is to be considered.

Another interesting screen, approved by this Board, is being constructed in the new pumping station of the city of Sacramento. Its purpose will be the removal of floating sewage solids, prior to discharge of the sewage into the Sacramento River. Its construction is of the harp type, using one-quarter inch rods spaced three-quarter inch centers. To effect easy removal of the large accumulation of screenings, rakes automatically comb the screens continuously, elevating the screenings to cars overhead.

The Santa Fe Railroad Company this month made an emergency installation for the application of hypochlorite to disinfect the sewage of the shops at Calwa prior to injection into deep wells, pending the preparation of plans and construction of works for more complete treatment. The emergency works were constructed within two days of approval of the plans by this Bureau. A salt test had shown that the sewage injected into these wells appeared at the well supplying Calwa City five days later and had passed through 900 feet of fairly dense strata. This is a striking example of how little protection is afforded by travel of water through soil.

Rendering advice on miscellaneous sanitary matters, where a great amount of field work was not necessary, has been continued as follows:

Sewage Disposal.

Beverly Hills. With the increase of population along the banks of the wash in which the septic tank effluent runs, with resultant nuisances, it has become necessary to plan a final oxidizing treatment. Sprinkling filters have been advised by this Bureau to meet the requirements.

Universal City. The development of a stupendous moving picture enterprise on the banks of Los Angeles River has presented a large sewage problem. Gross carelessness on the part of the management in failing to prevent the overflow of cesspools has more than once endangered the river. On account of the shiftless class of employees here available for the operation of any high grade sewage works, this Bureau has preferred to recommend the cesspool method of disposal with enough cesspools to prevent overflow.

Hyperion. Plans to clarify the sewage in Imhoff tanks and to carry the effluent some nine hundred feet farther into the ocean before discharge, are proposed by the city of Los Angeles to prevent offense to the beach towns on Santa Monica Bay. Efforts are being made to insure an election for the issue of bonds for the purpose.

Miscellaneous. Imhoff tanks at Fullerton, Anaheim and Orange were inspected. The plant at Anaheim is extremely well operated, considering the handicap due to roofing it over. The other plants are delivering a well clarified effluent which, however, later receives patches of leathery

scum growing on the sides of the channels, which break loose occasionally. More attention to this small detail is needed. The city of Los Angeles has recently completed a two-story septic tank at Wilmington. It is now being filled with fresh water prior to being placed in operation.

Water.

During the last week of October, eighteen bacteriological analyses of water were made.

REPORT OF THE BUREAU OF FOODS AND DRUGS FOR OCTOBER, 1915.

E. J. LEA, Director.

During the month of October two hundred and thirty-two samples of food and drug products were received at the Laboratory. One hundred and twenty-seven of these were official samples collected by inspectors. Eighty-six were unofficial samples. The unofficial samples were largely taken from supply deliveries to state institutions. Nineteen samples were taken from cold storage goods for which an extension of the cold storage period had been requested.

Official Samples.

Eggs. Forty-three samples of eggs were collected during the month. These eggs, in every case, were sold as fresh eggs and the price paid corresponded to the prevailing market price for fresh eggs. Thirty-seven of these samples were not fresh eggs. Many samples contained one, two, or three rotten eggs, and some samples consisted entirely of rotten eggs. Nearly all the eggs that were not rotten were stale. Very few fresh eggs were found in any of these samples. The other six samples were reasonably fresh.

Meat. Ten official samples of chopped meat and sausage were collected during the month, several of which contained sulfur dioxid as a preservative. These cases will all be referred to district attorneys for prosecution. Some of the other samples contained cereals, which fact was not properly declared by a label or placard.

Vinegar. Six samples of vinegar were collected. Two of these samples had been diluted with water, without such fact being declared on the label, as required by Food Inspection Decision No. 140.

Extracts. Fourteen samples of extracts were collected, principally from the outlying districts. Many of these samples were old stock, which had more than likely been on the dealers' shelves for a number of years. Some of them were up to standard, but the majority were imitation products having very little value for flavoring purposes.

Egg Noodles. Several samples of so-called egg noodles were collected. Some of these samples were in good condition and contained sufficient eggs to be called egg noodles. Quite a number, however, contained practically no egg at all. Our investigation of the manufacture of egg noodles has disclosed the fact that some manufacturers are using dry egg powder instead of eggs in the manufacture of noodles. Some of these egg powders have been examined in the Laboratory and were

found to be in good condition. Other samples consisted of dried eggs which were not in a good physical condition, the odor being stale and, in some cases, almost putrid.

Aspirin. Several samples of aspirin, principally in the form of tablets, have been collected. Some of these samples are genuine, while others consist of various mixtures of aceto salicylic acid and filler. Retail dealers are cautioned in regard to buying so-called aspirin tablets, unless they can obtain a valid guaranty from responsible wholesalers.

Unofficial Samples.

Eighteen samples of tea, submitted to the State Purchasing Department with bids, were examined in order to determine the best samples.

The following samples, representing deliveries to state institutions, were analyzed in order to determine whether or not they conformed to specifications:

Coffee, 4; cocoa, 1; chocolate, 1; catsup, 1; jelly, 1; spice, 6; vinegar, 3; sugar, 3.

Cold Storage Samples.

The California Cold Storage Act limits the period for which materials may be held in storage to twelve months. Persons desiring a further storage period are required to make application to the State Board of Health, after which the goods are examined to determine their fitness for further storage.

Nineteen samples of cold storage material were examined. These samples consisted of Chili peppers, figs, mackerel, herring, bacon, codfish, frozen eggs, nuts and poultry. Some of these samples were found to be in first class condition and the request for further storage was granted. Other samples were not in good condition and the request for further storage was denied.

Articles in Cold Storage Condemned upon Physical and Chemical Examination as Unfit for Food.

Date	Articles	Amount	Reasons	Disposition
Oct. 27, 1915	Livers	159 lbs.	Decomposed	Denatured
Oct. 27, 1915	Cranberries	72 bbls.	Decomposed	Denatured

Frozen Eggs.

On October 25th we began an investigation of frozen eggs, held by four different companies, in the cold storage warehouses of Los Angeles.

The preliminary samples of these lots of frozen eggs were in such a bad condition that it was deemed advisable to quarantine the entire lots until they could be examined more thoroughly. Additional samples were taken, representing all of the different lots held in storage, and, with the exception of very few of these lots, the eggs were decomposed, putrid and unfit for human consumption.

The State Board of Health, after reviewing the report of the Laboratory, released a few lots that were edible and ordered the destruction of the remainder.

The eggs in question represent cull eggs from the commission houses and other old and stale eggs, which are bought very cheaply, removed from the shell, placed in tin cans and frozen. They are then held in cold storage plants until drawn for use. These eggs find a market in certain bakeries, restaurants, etc.

Tomato Pulp.

On October 21st, the State Board of Health received information that a lot of 1,600 barrels of tomato pulp, stored at the plant of the Pacific Preserve Company, at San Leandro, had been sold at auction. The information further stated that this material was not fit for human consumption. The State Board of Health quarantined the entire lot of this pulp until an investigation could be made. The Laboratory was then instructed to proceed with the necessary investigation.

Eight representative samples were analyzed and the results were such that it was deemed advisable to obtain a larger number of samples, in order to better represent the large amount of material. Twenty more samples were obtained and analyzed, with results similar to those of the first samples.

The bacteria counts on these samples were made according to the standard methods and found to vary from one hundred and thirty-one million per cubic centimeter, to eight hundred and eighty-seven million per cubic centimeter.

Yeasts and spores ranged from eight per one-sixtieth cubic millimeter to four hundred and thirty-six per one-sixtieth cubic millimeter.

Molds in the different samples varied from 6 per cent of the fields examined to 68 per cent of the fields examined.

Chemical analyses of these samples indicate that from 50 per cent to 75 per cent of the original sugar present has been destroyed.

This tomato pulp is partly from the 1913 crop and partly from the 1914 crop.

Upon the completion of the Laboratory's investigation, a report was submitted to the State Board of Health and after considering same, the tomato pulp was ordered destroyed.

Cases Referred to District Attorneys, October 2, 1915.

Name of article	Offense	Accused dealer	Locality
Ranch eggs	Adulterated and mislabeled. Not fresh, but decomposed and putrid.	M. A. Newmark Company	Los Angeles.
Strawberry syrup	Mislabeled. Coal tar color added and not declared on label.	H. W. Hughes	Berkeley.
Creme de menthe syrup	Mislabeled. Coal tar color added and not declared on label.	Louis K. Lazarakis	San Francisco.
Lager beer	Mislabeled. Printing matter on label tends to deceive purchaser.	Wagner Distributing Company	San Francisco.
Egg noodles	Adulterated and mislabeled. Deficient in eggs. Other material substituted.	California Paste Company	San Francisco.

According to a Service and Regulatory Announcement of the Bureau of Chemistry, Department of Agriculture, Washington, D. C., Fines Have Been Imposed for Violations of the National Food and Drugs Act as Follows:

Shipper	Product	Charge	Fine
Dr. Shoop's Laboratories, Racine, Wis.	"Dr. Shoop's Night Cure" "Dr. Shoop's Cough Remedy" "Dr. Shoop's Restorative"	Misbranding	$150
Dennis Mfg. Co., Berkeley, Cal.	"Dennis' Eucalyptus Ointment"	Misbranding	100
The American Laboratories, Philadelphia, Pa.	"Bad-Em Salz"	Misbranding	100
The Quality Drug Stores Co., Kalamazoo, Mich.	"Kalamazoo Celery and Sarsaparilla Compound" "Quality Damiana Compound"	Misbranding	100
Dr. Shoop's Laboratories, Racine, Wis.	"Dr. Shoop's Twenty Minute Croup Remedy"	Misbranding	100
Youngstown Macaroni Co., Youngstown, Ohio	Fernet milano Vermouth mariano	Adulteration and misbranding Misbranding	[1]100
T. A. Slocum Co., New York, N. Y.	"Ozomulsion"	Misbranding	80
The Mihalovitch Co., Cincinnati, Ohio	Cognac brandy	Adulteration and misbranding	[1]50
Frank Morelli and Tomaso Bruni (Bruni & Morelli), New York, N. Y.	"Sciroppo Tamarindo"	Adulteration and misbranding	50
Clover Leaf Milling Co., Buffalo, N. Y.	"Peerless Dairy Ration"	Misbranding	20
The Paris Medicine Co., St. Louis, Mo.	"Dr. Porter's Antiseptic Healing Oil"	Misbranding	[1]25
Montgomery W. Voorheis (The LaClede Mills), Mattoon, Ill.	Dairy feed	Misbranding	[1]15
Schuh Drug Co., Cairo, Ill.	"Cassidy's 4X The Great Blood Purifier"	Misbranding	[1]15
C. F. Blanke Tea and Coffee Co., St. Louis, Mo.	Soluble coffee	Misbranding	[1]10
James E. Ballard, St. Louis, Mo.	"Ballard's Horehound Syrup Compound"	Misbranding	[1]10
National Pickle and Canning Co., St. Louis, Mo.	Catsup	Adulteration	[1]10
Henry Allenberg and Joseph Meister (Allenberg & Meister), Memphis, Tenn.	"Old Jim Fields' Phosphate Dill and Gin"	Misbranding	[1]25
Jones' Break-Up Co., New Egypt, N. J.	"Jones' Break-Up"	Misbranding	25
National Extract Works, New York, N. Y.	Extract orange peel	Adulteration and misbranding	25
Frederick W. Stute and George Van Ronzelen (Stute & Co.), St. Louis, Mo.	Compound catsup	Misbranding	20
E. L. Carswell Medicine Co., Americus, Ga.	"Carswell's Liver Aid"	Misbranding	25
M. J. Rogers Medical Co., Lewiston, Me.	"Roger's Consumptive Cure and Cough Lozenges" "Rogers' Inhalant"	Misbranding	15
Isaac Despres (Despres & Co.), New York, N. Y.	Coffee	Adulteration and misbranding	25

[1]And costs.

REPORT OF THE BUREAU OF REGISTRATION OF NURSES FOR OCTOBER, 1915.

ANNA C. JAMMÉ, R. N., Director.

Inspection of Training Schools.

The work of the Bureau is at this time largely concerned with the second inspection of training schools. The first inspection was completed on July 1st, a report of which will be found in Bulletin No. 9, "Survey of Training Schools for Nurses." A general résumé of the work appears, together with a list of schools accredited after this inspection, in an article of this issue entitled "The Nurses' Registration Act in Its First Two Years of Administration."

The second inspection will include all schools previously inspected to ascertain if these schools are maintaining the standard required in order that they may be retained on the accredited list.

These inspections include a detailed observation of the subjects taught and the manner in which the instruction is given by class, lecture, and demonstration. The amount and character of the practical experience; the general supervision and character of the nursing work in the hospital; the disciplinary standard of the school and the living and social conditions. It is frequently possible for the Director to attend a class, demonstration, or lecture, and to get in touch with the students by means of a talk to the assembled school on the objects and purposes of the registration act.

During September and October the following schools, most of them already accredited, were inspected:

Lane Hospital,
San Francisco.
University of California Hospital,
San Francisco.
Buena Vista Hospital,
San Francisco.
City and County Hospital,
San Francisco.
Mount Zion Hospital,
San Francisco.
Hahnemann Hospital,
San Francisco.
Fabiola Hospital,
Oakland.
Providence Hospital,
Oakland.
W. C. Jones Memorial Hospital,
Grass Valley.
Angelus Hospital,
Los Angeles.
Clara Barton Hospital,
Los Angeles.
Methodist Hospital,
Los Angeles.
Good Samaritan Hospital,
Los Angeles.
Children's Hospital,
Los Angeles.
Pasadena Hospital,
Pasadena.
Los Angeles Infirmary,
Los Angeles.

St. Mary's Hospital, San Francisco, and Providence Hospital, Oakland, have been added to the accredited list.

LIST OF COUNTY AND CITY HEALTH OFFICERS.

Alameda County—
Dr. C. L. McKown——Niles
Alameda——Dr. A. Hieronymus
Albany——Dr. F. R. Woolsey
Berkeley——Dr. J. J. Benton
Emeryville——Dr. A. T. Drennan
Hayward——Dr. F. W. Browning
Livermore——Dr. J. K. Warner
Oakland——Dr. R. M. Higgins
Piedmont——George T. Burtchaell
Pleasanton——Dr. J. Hal Cope
San Leandro——Dr. Luther Michael

Alpine County—
Mr. Fred S. Dunlap——Markleeville

Amador County—
Dr. E. E. Endicott——Jackson
Jackson——George Hambric
Sutter Creek——W. A. Burres

Butte County—
Dr. L. L. Thompson——Gridley
Biggs——
Chico——W. H. Marshall
Gridley——Dr. L. L. Thompson
Oroville——Dr. W. F. Gates

Calaveras County—
Dr. George F. Pache, Angels Camp
Angels Camp——Dr. E. W. Weirich

Colusa County—
Dr. C. A. Poage——Colusa
Colusa——Dr. C. A. Poage

Contra Costa County—
Dr. W. S. George——Antioch
Antioch——Dr. W. S. George
Concord——Dr. F. F. Neff
Hercules——Dr. M. L. Fernandez
Martinez——Dr. Edwin Merrithew
Pinole——Dr. M. L. Fernandez
Pittsburg——Dr. F. S. Gregory
Richmond——Dr. Chas. R. Blake
Walnut Creek——Dr. C. R. Leech

Del Norte County—
Dr. E. M. Fine——Crescent City
Crescent City——Dr. E. M. Fine

El Dorado County—
Dr. L. M. Leisenring——Placerville
Placerville——P. J. Hall

Fresno County—
Dr. G. L. Long——Fresno
Clovis——Dr. M. S. McMurtry
Coalinga——Dr. C. W. Hutchison
Firebaugh——Dr. H. J. Greven
Fowler——Dr. W. T. Crawford
Fresno——Dr. A. H. Sweeney
Kingsburg——Dr. J. A. Gillespie
Reedley——Dr. J. D. Hare
Sanger——Dr. Thos. F. Madden
Selma——Dr. O. H. Steinwand

Glenn County—
Dr. F. M. Lawson——Willows
Orland——Dr. D. L. Martin
Willows——Dr. F. X. Tremblay

Humboldt County—
Dr. Carl T. Wallace——Eureka
Arcata——Dr. G. W. McKinnon
Blue Lake——Dr. O. P. Floreth
Eureka——Dr. L. A. Wing
Ferndale——Dr. J. A. Lane
Fortuna——Dr. Orville Rockwell

Imperial County—
Dr. F. H. Carter——El Centro
Brawley——Dr. Eugene Le Baron
Calexico——H. C. Norgaard
El Centro——Dr. F. H. Carter
Holtville——J. C. Nale
Imperial——Dr. C. E. Standlee

Inyo County—
Dr. I. J. Woodin——Independence
Bishop——Dr. C. E. Turner

Kern County—
Dr. C. A. Morris——Bakersfield
Bakersfield——Dr. P. J. Curran
Delano——
Maricopa——Dr. H. N. Taylor
McKittrick——Dr. W. H. Cook
Taft——Dr. F. C. Galehouse
Tehachapi——Dr. N. J. Brown, Jr.

Kings County—
Dr. C. L. Scott——Hanford
Corcoran——Floyd Burns
Hanford——Dr. C. L. Scott
Lemoore——Dr. W. P. Byron

Lake County—
Dr. W. E. Upton——Kelseyville
Lakeport——J. G. West

Lassen County—
Dr. W. E. Dozier——Susanville
Susanville——Dr. E. S. Drucks

Los Angeles County—
Dr. J. L. Pomeroy——Los Angeles
Alhambra——Dr. F. E. Corey
Arcadia——Dr. Chas. D. Gaylord
Avalon——Dr. J. J. Peckham
Azusa——Dr. L. W. Atkinson
Beverly Hills——Dr. Lowell G. Frost
Burbank——Dr. E. H. Thompson
Claremont——Dr. F. W. Thomas
Compton——J. W. Stone
Covina——Dr. J. D. Reed
Eagle Rock——Dr. C. H. Phinney
El Monte——Dr. S. L. Corpe
Glendale——Dr. R. E. Chase
Glendora——Dr. C. H. Wood
Hermosa Beach——B. F. Brown
Huntington Park——Dr. W. Thompson
Inglewood——Dr. H. A. Putnam
Long Beach——Dr. R. L. Taylor
Lordsburg——Dr. J. E. Hubble
Los Angeles——Dr. L. M. Powers
Manhattan Beach——Llewellyn Price
Monrovia——Fred S. Whitcomb
Pasadena——Dr. Stanley P. Black
Pomona——Dr. N. J. Rice
Redondo Beach——Dr. D. R. Hancock
San Fernando——Dr. Benj. B. Ward
San Gabriel——Dr. Ruth Purcell
San Marino——
Santa Monica——Dr. Chas. G. Shipman
Sawtelle——Dr. A. B. Hromadka
Sierra Madre——Dr. R. H. Mackerras
South Pasadena——Dr. C. F. Metcalf
Tropico——Dr. Wm. C. Mabry
Venice——Dr. W. M. Kendall
Vernon——Dr. O. R. Stafford
Watts——Dr. E. J. Riche
Whittier——Dr. W. H. Stokes

Madera County—
Dr. L. St. John Hely——Madera
Madera——Dr. L. St. John Hely

Marin County—
Dr. J. H. Kuser——Novato
Belvedere——Dr. Florence Scott
Larkspur——Dr. J. E. McCue
Mill Valley——James V. Chase
Ross——Dr. Harry O. Hund
San Anselmo——Dr. O. W. Jones
San Rafael——Dr. W. J. Stone
Sausalito——Dr. A. H. Mays

Mariposa County—
Dr. J. M. Hicks——Mariposa

Mendocino County—
Dr. Judson Liftchild——Ukiah
Fort Bragg——Dr. L. C. Gregory
Point Arena——N. A. McCallum
Potter Valley——W. T. Eddie
Ukiah——Dr. J. Liftchild
Willits——Dr. F. C. Gunn

LIST OF COUNTY AND CITY HEALTH OFFICERS—Continued.

Merced County—
Dr. J. L. Mudd——Merced
Los Banos——Dr. R. Jadarola
Merced——Dr. Brett Davis

Modoc County—
Dr. W. E. Coppedge——Alturas
Alturas——Dr. W. E. Coppedge

Mono County—
C. O. Ware——Bridgeport

Monterey County—
Dr. Garth Parker——Salinas
King City——Dr. D. Brumwell
Monterey——R. L. Anderson
Pacific Grove——Chas. E. Tuck
Salinas——F. A. Abbott

Napa County—
Dr. S. McL. Doherty——Napa
Calistoga——Dr. Henry Abrons
Napa——Alex. Hull
St. Helena——J. G. Johnson

Nevada County—
Dr. Carl P. Jones——Grass Valley
Grass Valley——Dr. G. E. Chappell
Nevada City——Hugh Murchie

Orange County—
Dr. A. H. Domann——Santa Ana
Anaheim——Dr. J. W. Truxaw
Fullerton——Dr. J. H. Lang
Huntington Beach——Dr. G. A. Shank
Newport Beach——J. A. Porter
Orange——Dr. F. L. Chapline
Santa Ana——Dr. J. I. Clark
Stanton——Dr. J. H. Swan

Placer County—
Dr. John Manson——Lincoln
Auburn——A. S. Waldo
Colfax——Dr. R. A. Peers
Lincoln——F. R. Elder
Rocklin——J. H. Wickstrom
Roseville——F. H. Evans

Plumas County—
Dr. Smith McMullin——Greenville

Riverside County—
Dr. Arthur L. Brown——Riverside
Banning——Dr. L. M. Ryan
Beaumont——Dr. F. D. West
Corona——Dr. W. S. Davis
Elsinore——Dr. E. M. Arenschield
Hemet——Dr. Paul E. Simonds
Perris——A. F. Hardy
Riverside——Dr. Thomas R. Griffith
San Jacinto——Thomas Lloyd

Sacramento County—
Dr. J. H. Leimbach——Isleton
Sacramento——Dr. G. C. Simmons

San Benito County—
Dr. J. M. O'Donnell——Hollister
Hollister——Dr. J. M. O'Donnell
San Juan——Henry Drake

San Bernardino County—
Dr. John W. Callnon, San Bernardino
Chino——Dr. Elgar Reed
Colton——Dr. J. A. Champion
Needles——Dr. A. S. Parker
Ontario——Dr. Calvert L. Emmons
Redlands——F. H. Folkins
Rialto——Dr. T. R. McHugh
San Bernardino——Dr. F. M. Gardner
Upland——E. R. Bowman

San Diego County—
Dr. O. G. Wicherski——San Diego
Chula Vista——Dr. Geo. B. Worthington
Coronado——Dr. R. Lorini
East San Diego——Montrose W. Clare
El Cajon——Dr. Chas. R. Knox
Escondido——Dr. David Crise
La Mesa——Dr. J. A. Parks
National City——Dr. Will L. Allen
Oceanside——Dr. R. S. Reid
San Diego——Dr. A. E. Banks

San Francisco (city and county)—
Dr. W. C. Hassler——San Francisco

San Joaquin County—
Dr. Will Priestley——Stockton
Lodi——Dr. F. W. Coleman
Stockton——Dr. E. A. Arthur
Tracy——Dr. J. G. Murrell

San Luis Obispo County—
Dr. H. M. Cox——San Luis Obispo
Arroyo Grande——Dr. C. S. Clark
Paso Robles——H. M. Bayne
San Luis Obispo——W. F. Cook

San Mateo County—
Dr. W. G. Beattie——Colma
Burlingame——H. W. Rike
Daly City——Dr. A. H. Rankin
Hillsborough——C. M. Hirschey
Redwood City——Dr. J. L. Ross
San Bruno——Dr. F. Holmes Smith
San Mateo——Dr. W. C. McLean
South San Francisco——Dr. Ivan W. Keith

Santa Barbara County—
Dr. J. C. Bainbridge, Santa Barbara
Lompoc——Dr. F. A. Brown
Santa Barbara——Dr. R. F. Winchester
Santa Maria——Dr. B. N. Childs

Santa Clara County—
Dr. Wm. Simpson——San Jose
Alviso——
Gilroy——Dr. John A. Clark
Los Gatos——Dr. R. Seldon Anthony
Mayfield——Dr. F. M. Seibert
Morgan Hill——Dr. F. W. Watt
Mountain View——Dr. A. H. McFarlane
Palo Alto——H. F. Gray
San Jose——Dr. Paul Sanford
Santa Clara——Dr. G. W. Fowler
Sunnyvale——Mrs. Norman Schofield

Santa Cruz County—
Dr. Wm. H. Keck——Santa Cruz
Santa Cruz——Dr. H. E. Piper
Watsonville——Dr. F. H. Koepke

Shasta County—
Dr. G. W. Sevenman——Redding
Coram——Dr. J. P. Sandholt
Kennett——Dr. J. P. Sandholt
Redding——Dr. B. E. Stevenson

Sierra County—
Dr. T. M. Topp——Downieville
Loyalton——G. M. Wheeler

Siskiyou County—
Dr. J. Roy Jones——Yreka
Dorris——Dr. A. A. Atkinson
Dunsmuir——H. Woodward
Etna——Dr. W. H. Haines
Fort Jones——C. H. Ruggles
Montague——Dr. Chas. A. Pius
Sisson——Dr. Paul Wright
Yreka——Dr. J. Roy Jones

Solano County—
Dr. Geo. A. Starbird——Suisun
Benicia——Dr. W. L. McFarland
Dixon——C. L. Apperson
Fairfield ——
Rio Vista——Dr. W. E. Downing
Suisun——Dr. J. B. Blackshaw
Vacaville——Dr. H. P. Palmer
Vallejo——Dr. E. A. Peterson

Sonoma County—
Dr. S. S. Bogle——Santa Rosa
Cloverdale——Dr. Cory C. Ledyard
Healdsburg——Dr. J. W. Seawell
Petaluma——Dr. R. B. Duncan
Santa Rosa——Dr. Jackson Temple
Sebastopol——Dr. J. B. Blackshaw
Sonoma——Dr. A. M. Thompson

Stanislaus County—
Dr. J. L. Hennemuth——Modesto
Modesto——Dr. E. V. Falk
Newman——Dr. H. V. Armistead
Oakdale——Dr. F. W. McKibbon
Turlock——Dr. G. C. Saunders

LIST OF COUNTY AND CITY HEALTH OFFICERS—Continued.

Sutter County—
Dr. E. V. Jacobs.....Meridian
Yuba City.....Dr. J. H. Barr
Tehama County—
Dr. W. F. Maggard.....Corning
Corning.....Dr. O. F. Rudolph
Red Bluff.....Dr. Elliott Thompson
Tehama.....Dr. M. E. Poket
Trinity County—
Dr. D. B. Fields.....Weaverville
Tulare County—
Dr. W. A. Preston.....Visalia
Dinuba.....Dr. Wm. Whittington
Exeter.....Dr. P. A. Mix
Lindsay.....Dr. W. W. Tourtillot
Porterville.....Dr. O. C. Higgins
Tulare.....Dr. J. B. Rosson
Visalia.....Dr. W. A. Preston

Tuolumne County—
Dr. Wm. L. Hood.....Sono
Sonora.....W. H. Denn
Ventura County—
Dr. A. A. Maulhardt.....Oxna
Fillmore.....Dr. Will R. Mannin
Oxnard.....Dr. Ralph W. Ave
Ventura.....J. H. Hard
Santa Paula.....Dr. B. E. Merri
Yolo County—
Dr. W. J. Blevins.....Woodlan
Winters.....Dr. R. E. Pec
Woodland.....D. E. Jacob
Yuba County—
Dr. J. H. Barr.....Marysvill
Marysville.....Dr. Fred B. Tapley
Wheatland.....W. H. Niemeyer

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